JUNE, 1943

fuel oil & oil heat

Year, 25 Cents a Copy

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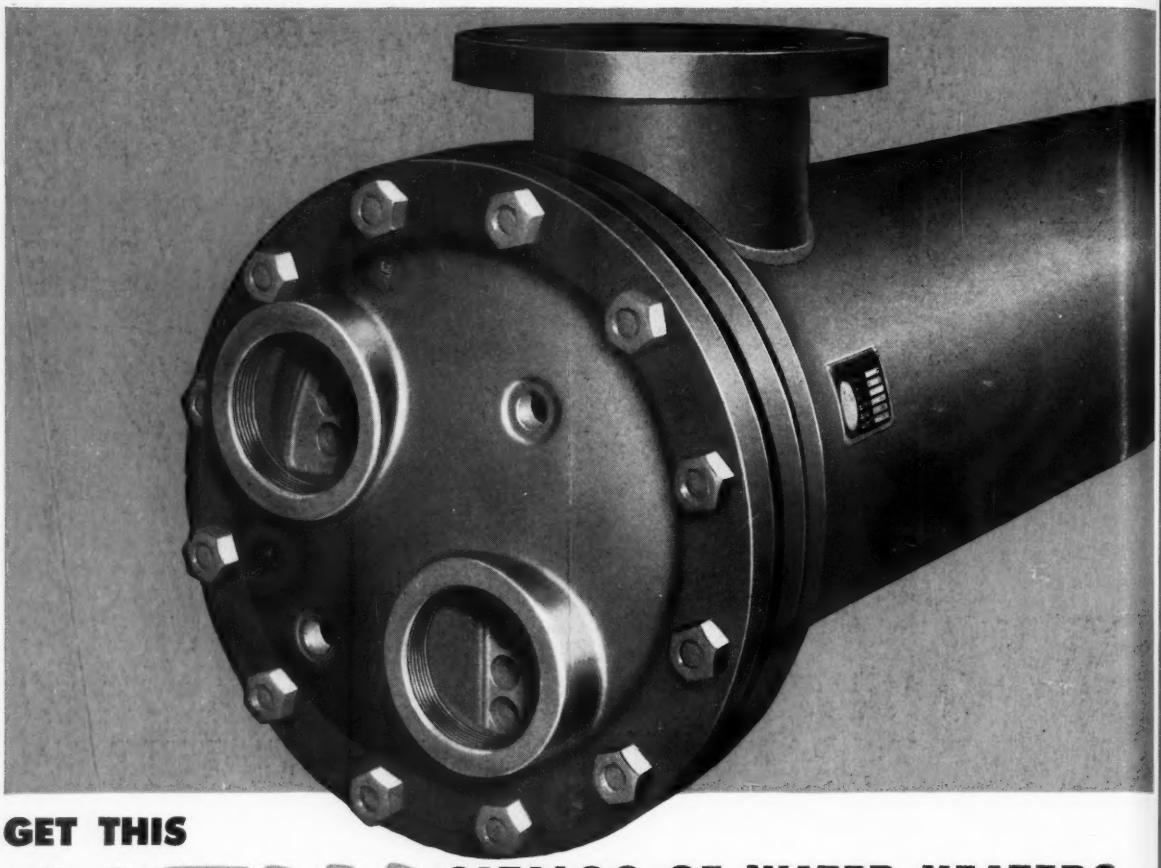


GET THIS

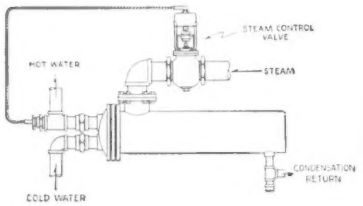
NEW CATALOG OF WATER HEATERS ...WITH NEW SIMPLIFIED SELECTION TABLES

The country over, "B & G" is a buy-word for water heating equipment. Now another addition to a big family of products is made in this line of B & G Instantaneous Water Heaters.

Re-designed to permit use of war-dictated materials . . . engineered for maximum heat transfer within minimum space . . . enlarged to include a comprehensive range of standard sizes! All available regularly in two and four-pass units—other pass arrangements can be manufactured to meet any given operating problem.

Send today for the new catalog illustrated here. You'll be delighted with its easy sizing tables which enable you to select a heater quickly and accurately. Included are a few simple rules which show you how to avoid common errors when designing service water systems . . . and how to compensate for varying conditions of service. Capacities are listed for all usual inlet and outlet temperatures.

B & G Instantaneous Water Heaters are for *external* application to any size or make of steam boiler.



B&G INSTANTANEOUS WATER HEATERS

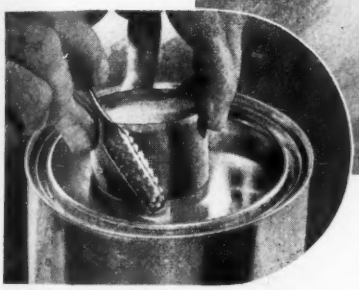
BELL & GOSSETT CO., MORTON GROVE, ILLINOIS

Canadian Licensee: S. A. Armstrong Ltd. 115 Dupont St., Toronto

Sundstrand

SERVICE SUGGESTIONS

1. REMOVE STRAINER



2. CLEAN STRAINER

3. CHECK LINE FOR AIR LEAK

CLEAN NOZZLE

CHECK SUCTION LINE FOR OBSTRUCTION

BLEED AIR FROM SUCTION LINE

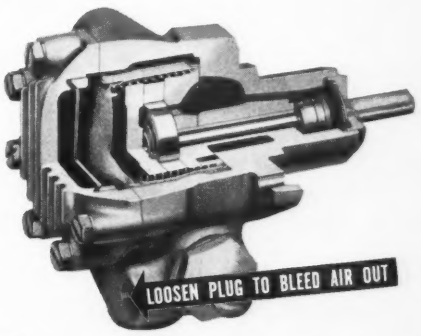
OTHER CORRECTIVE MEASURES

*5. If Oil Flow Fails . . .

The most common cause of oil flow failure is a clogged strainer. The remedy is obvious—take the strainer out and clean it (see No. 1 of this series). Another common cause is a clogged nozzle which, of course, requires removal and cleaning of the nozzle. Or, the suction may have been lost due to an air leak. Sometimes the suction line is obstructed somewhere, or air bound. Correct the cause, whatever it is, and keep your Sundstrand Fuel Units operating at full efficiency!

CROSS-SECTION OF S-1 FUEL UNIT

Some less common causes of oil flow failure include (a) a "frozen" pump shaft, due to foreign material; (b) motor coupling loose or broken; (c) oil level in tank below end of suction line. For suggestions on handling all servicing problems, see our Service Bulletin 102. Also get Bulletins 106 and 107 showing mounting adaptors and foot mountings to replace old and worn-out fuel units with new Sundstrand Fuel Units.



***To follow: 6. Eliminate "Tank Hum"**

SUNDSTRAND PUMP DIVISION

SUNDSTRAND MACHINE TOOL CO. ROCKFORD, ILLINOIS U.S.A.

2556 ELEVENTH ST.
ROCKFORD, ILLINOIS

fuelfoil & oil heat

MERCOID

A SYMBOL OF DEPENDABILITY IN AUTOMATIC CONTROLS

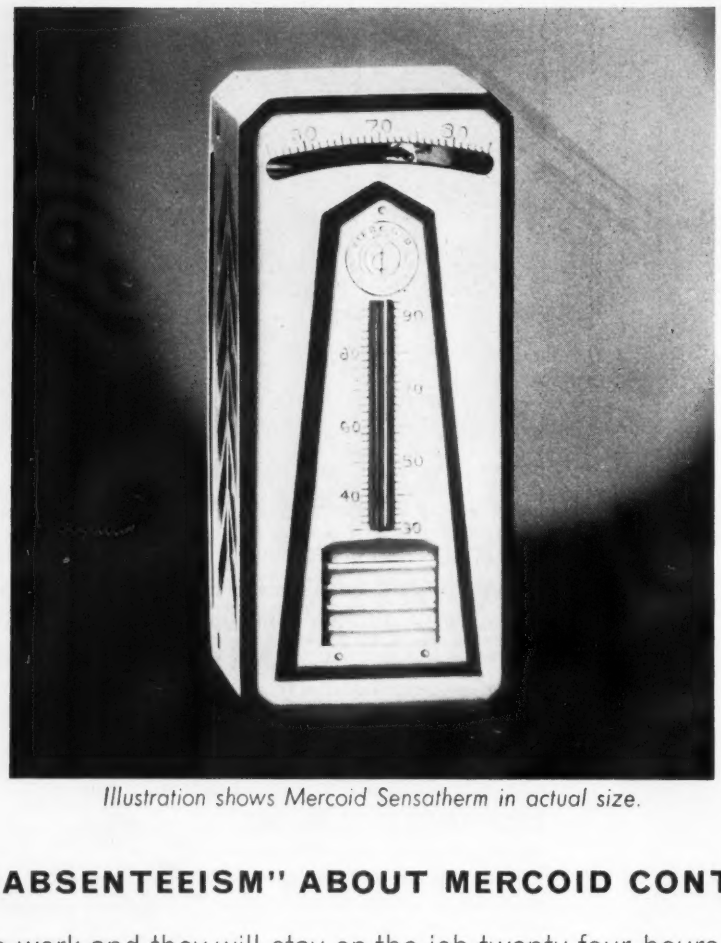


Illustration shows Mercoid Sensatherm in actual size.

NO "ABSENTEEISM" ABOUT MERCOID CONTROLS

Put them to work and they will stay on the job twenty-four hours a day, seven days a week, fifty-two weeks a year, and go on from year to year without a break in the performance of the duty assigned to them ★ That is why engineers are using Mercoid Controls on many critical war time applications where dependable and accurate control performance are essential requirements ★ They will do the same job for you. It always pays to specify Mercoid Automatic Controls ★ Write today for catalog showing the complete Mercoid line.

THE MERCOID CORPORATION ★ 4213 BELMONT AVE. ★ CHICAGO, ILL.

VOL. 2 NO. 2

fueloil & oil heat

JUNE 1943

Front Cover Photograph Courtesy Caterpillar Tractor Co.

Names in the news

H. W. Dodge, vice-president and general sales manager of the Texas Co., and for the past year deputy director general for staff of WPB, has been named to the newly created full-time position of director in charge of PAW District 1, at New York. Most petroleum problems arising in the 17 Eastern states are now to be handled at New York, instead of at Washington.

John F. Winchester, manager of the automotive department of Standard Oil Company of New Jersey, was recently appointed consultant to the Petroleum Carriers Section of the Office of Defense Transportation, as an advisor on local delivery. *Leo Huff*, chief transportation engineer of the Pure Oil Co., Chicago, received a similar appointment.

Ralph A. Patterson is the new sales manager of the Bell & Gossett Co., Morton Grove, Ill., manufacturers of water heating specialties. He was formerly in charge of the company's Philadelphia office.

J. W. Connolly, manager of Standard Oil Co. of New Jersey's fueloil department, has been advanced to sales manager of all general office and national sales, and also coordinator of all marketing divisions.

R. J. (Chief) Bender, for eleven years combustion engineer for the Sinclair Refining Co., Chicago, and editor of the "Sinclair Firebox," has joined the Navy Reserves as Lieut.

W. H. Aubrey, vice-president of the Frick Co., Inc., was elected president of the Air Conditioning and Refrigeration Machinery Ass'n. at its annual meeting in New York May 14.

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Editorial leaks

Frequently in recent months oilheating dealers have urged that some sensible plan be worked out to permit installation of their present stocks of oilburners and units as replacements of existing old oilheating installations. All sound argument would seem to favor this, except possibly the one of administrative handling problems. Dealers are holding about 18,000 burners and units, and to many of them it's a financial burden hard to bear. Manufacturers have in completed stocks another 37,000 burners and units, with a lot of money tied up that could be used to better advantage in financing their war production jobs.

If all of the 55,000 were installed to replace obsolete burners, that would be only two percent of present burners in operation. The modern burners, highly efficient, would save 20 to 30% of the oil used by old wasteful jobs. The old equipment could be scrapped and would total several thousand tons.

The dealer revenue from the sales would help keep them alive, and it is important that they stay in business to service the 2½ million burners now operating, lest they become inefficient oil hogs through neglect.

Administratively, the releasing of these frozen burners might be handled through rationing by OPA, and dealers would get installation permits from local rationing boards. If a dealer claimed that an old burner was wasteful, the local board could readily check this from its record of past fuel consumption. It would be feasible for boards to insist that the old material be scrapped, by requiring that the dealer bring in evidence of sale to a junk dealer, before the board would consider the transaction closed.

Such a program would not require critical materials—in fact it would release some through scrap—it would not raise fueloil demand, but rather relieve it; it would not burden local boards, for each would handle only a dozen or two. The plan would bring added comfort to some homeowners whose ration cut has been excessive as a result of having wasteful equipment that requires too much oil to heat the house.

◈

Heating equipment for a ship has to be extremely compact as well as capable of meeting a wide range of climatic conditions, and some of the things being learned through the installation of ship heating may find application in postwar homes. Ship heating plants must not only occupy a minimum of space, but they must be shorn of all excess weight and must use the least possible critical metal.

Small boilers, small pipes and smallest possible radiators and convectors are specified to meet the limited space conditions. While most ships are heated with steam, others, particularly those which are diesel powered, use high temperature forced-circulation hot water.

◈

Figures being mentioned in connection with overseas shipment of fueloils and gasoline for war purposes are incredible to men who handled such products in the last war. Some revealable facts which show the great differences between this war and the last make it clear why we at home must get along with so much less oil.

A mechanized division, for instance, burns 18,000 gallons of gasoline an hour proceeding along a road at normal speed; a heavy bomber at cruising speed uses 200 gallons of gasoline and a fighter plane needs 100 gallons in an hour. Monthly supplies for each man on a battle front use 1½ tons of shipping space and a ship that carries these supplies to North Africa requires an average of 214,000 gallons of residual oil to make the trip. The total quantity of petroleum shipped overseas in the first 12 months of this war was 80 times that shipped across in the same period of the last war.

◈

Fueloil distributors wanting wider margins have not been particularly vociferous about it at price headquarters. True, association directors have carried the ball into high places but there has been little spontaneous outpouring of fueloil woes in the form of letters to the boss. While letters from gasoline jobbers with heartrending appeals for margin relief have poured into OPA oil price headquarters by many hundreds in recent months, the number from fueloil men could be counted on the fingers. The gasoline letters rarely carry enough factual data to be individually convincing, but even so, their number and urgency of tone have fairly well proven that something is rotten in Denmark. When a man is thoroughly wrought up with the certainty that his business is about to expire, he tries anything, including a letter to Prentiss Brown.

◈

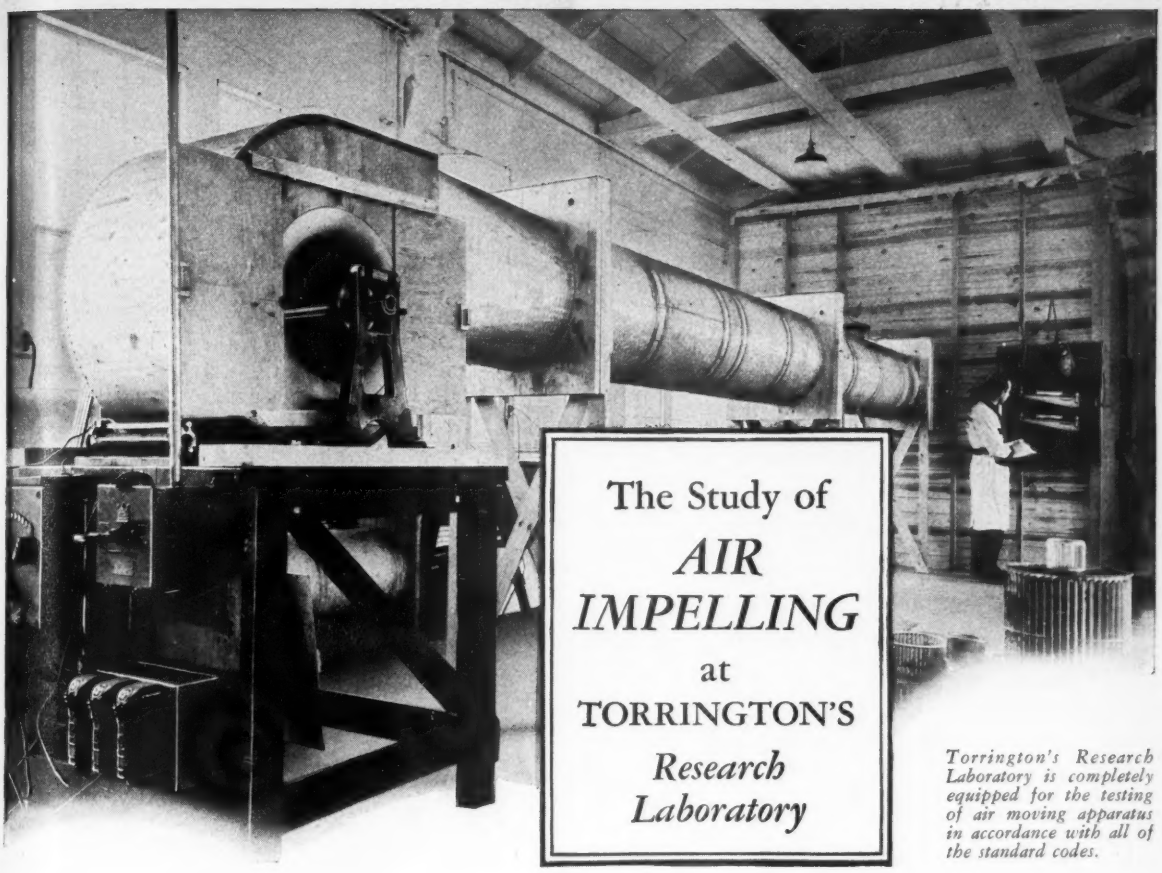
When Prentiss Brown and Sumner Pike rejected PAW Ickes' plea for a straight across the board rise in crude prices, they appended a subsidy plan to finance wildcatters from the Government kitty—definitely a realistic approach, but the plan, half jelled, had too many soft spots, with the result that industry men and other Government agencies have discounted it. Recognizing that their offspring isn't all it might have been, OPA oil price men are probing other possible means to the same end. One being studied would subsidize a substantial premium on new discovery oil only, assuring possibly two dollars a barrel for the first year of a new field's output. If higher price is the answer to stimulating discovery, such a test should show it, and the Government's outlay would only be for proven accomplishment. The principal difficulty would lie in determining just what is new discovery.

◈

Room heating without conventional fuels is being studied by an Edinburgh electrical engineer. He extracts heat from outdoor air with a "heat pump" and releases it indoors, using a reversal of the mechanical refrigeration principle.

Since all air contains latent heat, it may someday be possible to utilize it, though it's hardly an early threat to America's boiler industry.

Refrigeration cools by expansion of a fluid, the heat pump heats by compression. On paper, the pump would consume only one-twentieth of the energy needed to heat the room with coal or oil, but in experimental practice, the engineer has found that it uses about one-half.



The Study of *AIR IMPELLING* at TORRINGTON'S *Research Laboratory*

Torrington's Research Laboratory is completely equipped for the testing of air moving apparatus in accordance with all of the standard codes.

The proper functioning of many war machines depends upon the efficient movement of air for cooling, for heating or for ventilating. Many manufacturers of such equipment therefore make it a practice to consult Torrington's Research Laboratory in developing their designs.

The same consulting service is available to manufacturers of automatic oil heating units. We will welcome your inquiry on any phase of air delivery — for either immediate or post-war designs.

THE TORRINGTON

MANUFACTURING COMPANY, TORRINGTON, CONN.

MANUFACTURERS OF AIRISTOCRAT QUIET PROPELLER FAN BLADES & AIROTOR BLOWER WHEELS

FORCED CIRCULATING "SUMMER-WINTER"

System of Hot Water Heat!

IDEAS are on the march! Improvements in products due to the War's demands will mean much to the home of tomorrow. In heating, Hot Water is coming into its own! Already we can predict... most of the better homes of the future will be almost magically heated automatically with Forced Circulating Summer-Winter Hot Water Heat at amazingly low cost. While our facilities today must all be devoted to working for Victory, Thrush Circulators, Valves and Controls are still available under Government priorities. Write Department C-6 for more information now.

H. A. THRUSH & COMPANY · PERU, IND.

Somewhere south of the equator a sturdy 1-ton Mack does ground duty for one of Pan American Airways' famous flying clippers . . . Sketched by Peter Helck.

LITTLE CHIP OFF A RUGGED OLD BLOCK . . .

You don't have to work long with trucks—either as owner or driver—to see why the admiring phrase, "Built like a Mack truck" has established itself in America's language. On the heavy punishing jobs it has been known for years that a Mack's your *best* truck in the end because it's *more* truck to begin with. The performance of little Mack pick-up and delivery trucks in wartime transportation is proving that every Mack, no matter what size, is truly a chip off the old block.

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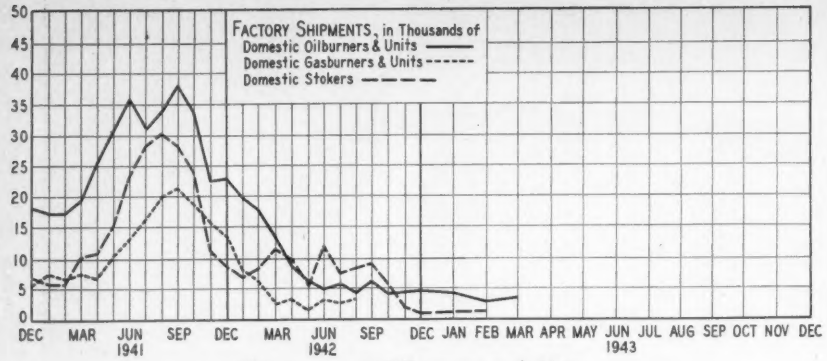
Mack Trucks, Inc., Long Island City, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J. Factory branches and dealers in all principal cities for service and parts.

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!

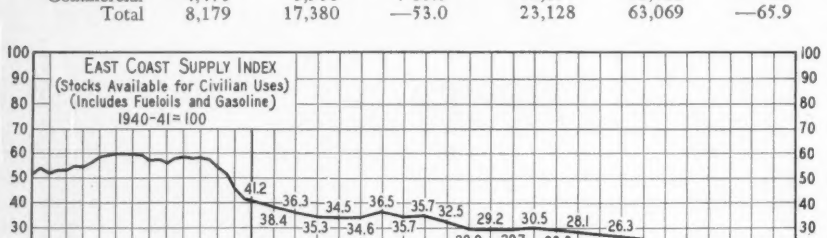
fueloil & oil heat


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gasburners & Units
Domestic Stokers
DEC MAR JUN SEP DEC MAR JUN SEP DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1941
1942
1943

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 137 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	MARCH			THREE MONTHS		
	1943	1942	Percent Change	1943	1942	Percent Change
Conversion	2,067	9,789	—79.0	6,111	40,118	—74.9
Boiler units	973	1,482	—34.3	2,475	4,252	—41.8
Furnace units	666	2,179	—69.7	2,347	6,397	—63.4
All domestic	3,706	13,450	—72.3	10,933	50,767	—78.5
Commercial	4,473	3,930	+13.8	12,195	12,302	— 0.9
Total	8,179	17,380	—53.0	23,128	63,069	—65.9



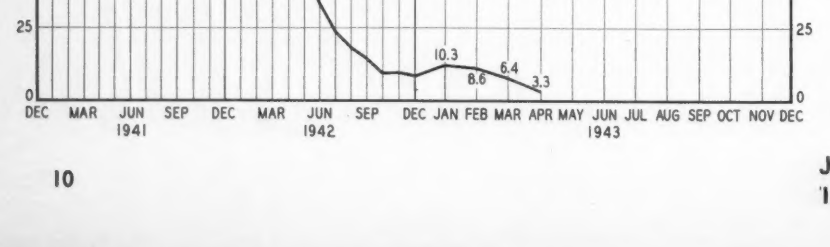
April Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$338	$195	$645	$395	$715	$395
Lowest	200	169	425	299	425	340
Apr. Aver.	260	178	499	352	511	363
Mar. Aver.	262	174	516	365	499	356

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more; for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: Jan. 1940 is 100%

WHOLESALE				RETAIL			
April	103.6	Six months ago	110.4	April	107.8	Six months ago	109.6
March	103.6	Year ago	104.5	March	108.2	Year ago	104.3



Oilheating Trends

INSTALLATIONS OF DOMESTIC oilburners and units in April are estimated at only 268, down 97% from April 1942. Permit records from 40 principal cities were off 97.6% and reporting key dealers showed a drop of 96.9%. Burners can be installed only as replacements where the old burners completely break down, and little of that happens in Spring. March installations were 484, February 1,604 and January 2,728.

PRICES: The wholesale index showed no change in April, the retail was down less than a point on conversion burners. Furnace units sold higher, but only a handful were bought—so few that variety in models could account for the change.

STOCKS: Dealers reporting continued to have on hand the same average stocks as in the past several months, or 24 burners and units. Only one reported no burners, two had over a hundred each. Thus total dealer stocks remain at about 18,000. Factory stocks dropped again slightly in March, the latest month for which figures are available. The month started with stocks of 37,590 domestic burners and units; it ended with 36,687. Shipments during the month were 3,706, so new production was 2,803. Of the estimated total dealer and manufacturer stocks of 54,700, approximately 35,900 are conversion burners, 8,500 are boiler-burner units and 10,300 are furnace-burner units.

SERVICE INCOME: Reporting dealers had average service department income in April of $2,082, or a 13% rise from the year before. Not easy to understand, April was slightly above March, when the same group averaged $2,032. Apparently in April service men were less rushed, had time to go back and do the more substantial work. These dealers had February service income of $2,315, January of $2,62

RATIONING OBSERVATIONS: Oilheating dealers and fueloil distributors report that on the average 34% of their customers ran out of coupons in March and April and got relief through the "hardship" amendment. The amount that they got averaged 90 gallons, which in the East represents about the amount they were cut by devaluing coupons in two winter periods. If coupons had remained at 1 gallons straight through, most of the would have been unnecessary. In the Mid

west the extra "hardship" gallonage compensated the abnormal degree-days, which had not been fully covered by their 11 gallon coupons. However, making 90 gallon average drops this Spring to over a third of total customers gave distributors a terrific financial wallop.

Fueloil distributors estimate that by May 10, 46% of their customers who use oil for Summer hot water have none to carry them until July, when new deliveries start. There is an interpretation of Amendment 45 permitting boards to issue small amounts for "hardship" hot water cases, so there will be a lot of these. The gallonage involved is slight, however, in the over-all program, but again dealers will be making tiny drops. An appeal has been made to the OPA price section to permit higher prices on drops under 125 gallons . . . this would be a help.

Distributors report that, on the average, 52% of their customers got through the winter on their original rations without having to get supplements or auxiliaries.

Asked to comment on the revised rationing plan, many dealers still criticize the general structure, but about half think it's such an improvement that they're willing to bless it. Typical of the thinking:

"Believe the proposed plan is a great improvement, especially in timing, less coupons, no numbering" . . . "Like it all except the coupon slip stating who is the supplier, as customer may feel frozen to present supplier" . . . "Don't like period coupons; also believe all rations should be revamped to a cubic foot basis" . . . "The new plan will help some on delivery time; allowing tanks to be filled will also help if the coupons are issued before July; there will be little change in the amount of office work required" . . .

"It will go a long way to ease most of the past season's troubles" . . . "Many are going to run out of oil again if they start with a full tank, but in spite of this I like the full tank start" . . . "Dislike use of coupons; people will still run out of oil near the end of each period as last year; the month carryover will help but not cure it" . . . "Last year we had 90% of our customers' tanks filled before July 1; this enabled us to fill our storage early and get an adequate supply for future demands; this season we will have to wait to fill customers' tanks and may find it hard to store all we'd like to" . . .

"Local boards are up in the air on conversion policy" . . . "If commercial installations convert, we're opposed to any home rationing" . . . "Should let oil dealers give auxiliary rations up to 100 gallons; oil truck drivers should be frozen to their jobs" . . . "More oilheating men on boards would avoid a lot of confusion" . . . "Coupons and five periods will put us into bankruptcy unless the spread is increased to cover costs; those in the industry who have supported the revised plan know nothing of the problems of the dealer delivering less than five million gallons" . . . "We are looking forward to an easier time" . . . "At least an improvement" . . . "Looks good to us."

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
April		4 MONTHS			April		4 MONTHS	
1943	1942	1943	1942		1943	1942	1943	1942
..	..	..	..	Baltimore, Maryland	85	294	271	759
..	..	..	..	Binghamton, New York	0	2	0	13
5	14	42	297	Boston, Masachusetts	..	..	..	..
0	10	3	138	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	11	18	..	57
..	..	..	..	Des Moines, Iowa	1	81	1	292
0	81	0	278	Detroit, Michigan	705	918	1436	3530
2	9	2	31	Elizabeth, N. J.	24	2	40	5
0	10	1	47	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	3	2	18
..	..	..	..	Hackensack, N. J.	0	31	0	37
5	78	11	214	Hartford, Conn.	..	..	..	..
4	52	25	318	Hudson County, N. J.	..	..	..	..
0	31	1	46	Irvington, N. J.	0	10	0	23
..	..	..	..	Lynn, Massachusetts	0	8	0	25
0	29	4	103	Milwaukee, Wisc.	25	65	93	225
6	63	21	202	Minneapolis, Minn.	1	43	2	218
..	..	..	..	Morristown, N. J.	0	3	0	6
1	9	5	67	Mt. Vernon, New York	..	..	..	..
2	30	12	97	New Bedford, Mass.	..	..	..	..
0	15	1	54	New Haven, Conn.	..	..	..	..
2	2	6	9	New Orleans, La.	..	..	..	..
0	2	0	32	New Rochelle, N. Y.	0	0	0	18
5	644	..	..	New York City (total)	..	..	..	..
0	551	..	1982	Brooklyn-Queens	..	..	..	..
4	93	25	611	Manhattan, Bronx, Rchd.	..	..	..	..
..	126	..	425	Norfolk, Virginia	1	231	157	705
0	2	2	4	Oakland, Calif.	..	..	..	..
1	57	13	193	Omaha, Nebraska	1	33	2	247
0	12	1	28	Orange, New Jersey	0	1	0	3
0	8	0	29	Passaic, New Jersey	..	..	..	..
0	7	0	40	Paterson, N. J.	0	2	0	13
..	..	..	..	Plainfield, N. J.	6	10	6	20
2	7	2	57	Portland, Maine	3	9	11	14
0	204	6	870	Portland, Oregon	63	80	1093	401
0	22	0	166	Providence, R. I.	0	13	0	36
..	..	..	..	Reading, Penna.	0	1	0	8
0	6	1	53	Richmond, Virginia	0	62	33	187
0	54	0	154	Rochester, N. Y.	..	..	..	..
0	6	2	56	Rockville Center, N. Y.	0	0	0	14
0	1	0	14	Salem, Massachusetts	0	2	0	6
5	47	26	176	St. Louis, Missouri	2	65	2	215
0	91	5	292	St. Paul, Minnesota	0	44	1	154
5	31	7	117	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	129	152	360	721
..	..	..	..	Springfield, Mass.	41	81	53	218
0	10	0	43	Stamford, Conn.	..	..	..	..
0	3	1	18	Syracuse, New York	0	9	24	59
..	..	..	..	Trenton, New Jersey	0	0	0	1
..	..	..	..	Utica, New York	0	56	0	57
2	135	11	613	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	4	0	14
1	7	9	35	White Plains, N. Y.	0	0	0	2
0	9	3	85	Wilmington, Delaware	4	1	54	13
0	55	7	136	Worcester, Mass.	..	..	..	..
0	18	5	105	Yonkers, New York	..	..	..	..
47	1997	260	8235	*Totals*	1102	2334	3641	8334
—97.6	..	—96.9	..	*Percent Change*	—53.0	..	—68.3	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

WARM AIR EQUIPMENT: Winter air-conditioning units sold by manufacturers in the first quarter of this year were 5,870, against 22,788 in the 1942 quarter. Gravity warm air furnaces this year were 24,121, against last year 53,622. By fuels, airconditioners this year were: coal 4,206, gas 1,240, oil 424. These do not include oilburner manufacturers' furnace-burner units, which in the quarter were 2,475.

DEALERS SAY: —

PENN CONTROLS MEAN GOOD WILL TODAY — INCREASED SALES TOMORROW

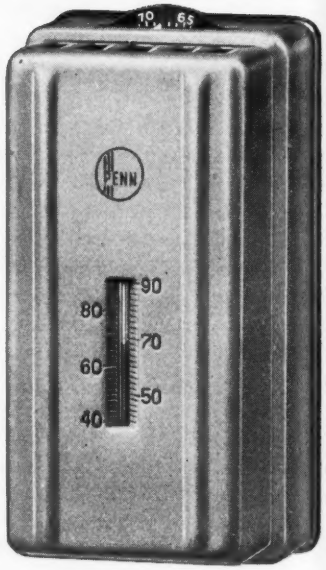
More than ever before, good will is the foundation of good business.

Under the stress and restrictions of war times, good will is harder to maintain—but automatic heating dealers who foresee the tremendous opportunities in the post-war world are doing everything possible to keep customers sold.

Penn automatic heating controls are doing their part in this important job. They are serving *dependably,* at a time when dependability is appreciated above all other qualities . . . keeping users sold . . . creating wider acceptance for the automatic heating which will be available when Victory is won.

Penn Temtrol, the heat anticipating thermostat, leads the Penn line of automatic controls for all fuels and all systems . . . a *complete line* which will meet every sales opportunity in the post-war market. Temtrol holds temperature closely to selected level, avoids zig-zag heating, and helps conserve fuel to make the allotted ration go further. ***Penn Electric Switch Co., Goshen, Ind.***

In Canada: Powerlite Devices, Inc., Toronto, Ont.



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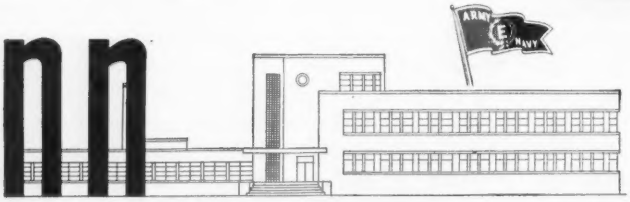


AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

☆ ☆ AMERICA ☆ ☆

the Modern Aladdin

THE cry of the Axis, "They're unprepared! . . . Time is against them. We have prepared for 20 years. We can't lose!"

Yes, the above seemed true until that fatal December 7th. From that day America has transformed itself into the Modern Aladdin who today, in just a little more than a year, is the one gigantic arsenal supplying planes, tanks, guns and munitions to the United Nations all over the world, in greater quantities than all the other nations combined.

The Luxaire plant speedily became a part of the Modern Aladdin, turning out implements of war. This speedy change-over was possible only because Luxaire's new, modern machines and equipment were as capable of fabricating products needed by our armed forces as they were capable of producing warm air furnaces and air conditioning units.

BUY MORE WAR BONDS AND STAMPS

Luxaire

Warm Air Furnaces . . . Air Conditioning Units . . . Coal . . . Gas . . .

THE C. A. OLSEN MANUFACTURING CO., ELYRIA, OH

fueloil & oil heat

A prediction

After Victory a housing boom of unprecedented proportions is confidently expected.

Government estimates place the investment in new housing immediately following the war at billions of dollars.

Most of this money will be spent for well-built and well-insulated *small* homes. And, correspondingly, the demand will be for small, economical heating units especially designed for this service, and with firing rates as low as one-half gallon of oil per hour.

A GREAT OPPORTUNITY

The forward-looking merchandiser of automatic heating equipment will be alert to this opportunity. Conscious of the limitations of other types of power burners, he will turn to the Timken Wall-Flame oil burner . . . the *only type of power burner capable of operating efficiently, dependably and quietly at firing rates as low as ONE-THIRD OF A GALLON OF OIL PER HOUR.*

He will apply for the Timken dealership franchise *now*. He will *plan ahead* and *work ahead* to develop his list of prospective home builders. He will contact local architects and building contractors *ahead of time* so that he will be all set to begin Timken installations immediately when home building is given the "green light."

WHOLE-HEARTED BACKING

We at Timken are looking confidently to the future. We are keeping the TIMKEN name prominently before the public with hard-hitting magazine and newspaper advertising in all the principal oil heating markets. Everything has been done and will be done to help the Timken Dealers weather the war period . . . direct mail programs, special service promotions, service handbooks, new accessories to sell, personal help from T.S.A. field men, and everything else aggressive dealers need and want. Post-war equipment planning is already in action and literature on Timken-equipped post-war homes is in the hands of prospective home builders.

If you are looking for a profitable present *and* post-war opportunity, write Timken today!

ARMY E NAVY
For Production "Well Done"

TIMKEN *Silent Automatic*

OIL HEATING PRODUCTS FOR THE HOME

Division of THE TIMKEN-DETROIT AXLE COMPANY, Detroit, Michigan

Still in the Black

This Dealer's Service Profit Offsets Burner Sales Loss

By
A. E. Coburn

The boys who used to work in the back room have taken over the front office, and they're not doing badly. Good service management is holding a larger slice of the total dollar volume as profit than in the more active days when equipment sales held the spotlight. Lessons being learned the hard way today will make better dealers for tomorrow.

WAR WRECKS MANY THINGS besides battlefields. Lots of civilian businesses are being severely jolted by every shell that is fired on far-away fields. Doors along Main Street are being locked for the duration every night as the metal for civilian goods goes to war. But skilful management and hard work are keeping many more doors well open during these trying times.

Retail oilburner dealerships probably have been hit as hard as any retail civilian business, but thousands of dealers are still serving their customers and staying wide of the sheriff on nothing more than good management, and their ability to go without sleep.

One such retail oilburner operation is Oil Burning Engineers, Inc., Evanston, Ill. The Evanston office is one of two operated by the company, but each stands squarely on its own feet. Their books are kept separately, and each manager is a law unto himself.

"We were worried when the 'L' orders began to close in around us," says Roger Deatherage, manager of the Evanston office. "Though we are affiliated with one of the large oil distributors in this area, and sell oil for them, we are primarily oilburner dealers, and must sink or swim as a retail equipment outlet. When we were deprived of our retail sales and installation of new burners and units, we had to do what others have done; turn to our service department as our only means of income."

As many dealers can testify, making a service department support an entire dealer operation is much easier to talk about than to do. There are items of overhead that are hard to reduce. There are frozen prices, and rising costs that creep nearer the meeting point with every passing day. Living off the service department is a good trick, but it can be done!

Figures in the accompanying table will reveal to the statistically minded that Oil Burning Engineers' Evanston office netted 21.4% on their sales volume in the last quarter of last year, against 15.0% in the same quarter of the year before, and did it while that volume of business was dropping 37.8%. On only 63% as much total dollar volume, the operation made 88.4% as much profit as in more prosperous times.

How this job is being done should be told by a less modest man than Mr. Deatherage. He admits only to spending a little more time on service sales, and watching costs to keep them in line with the reduced income. That is probably true, just as it is true that the way to be successful is to succeed.

When new installations are prohibited, and customers are being urged to convert to coal, there is no expanding market for oilburner service. Getting new customers becomes a problem.

"That's true," says Mr. Deatherage, "but we were lucky. Four dealers who formerly did service work went out of business, and we worked hard for those accounts. With no opportunity to work on new sales and installations, all of us had more time to put on service sales. As a result we increased our customers on service contracts 20% last heating season, and we hope to do better than that this year.

"Until four years ago," Mr. Deatherage explains, "we were Oil-O-Matic dealers exclusively. Then we took on other burners, and broadened our activity in the service side of our business. Still, we did not make any great effort to sell contracts, with the result that nearly 80% of our present customers are on call service, and only 20% on contract. We expect to get at least a third of our customers on signed contracts before the start of the next heating season."

Roger Deatherage

Oil Burning Engineers' contract gives the customer a choice of three services. Under Plan No. 1 he orders a summer cleaning of the heating plant, and a check-up of the burner and controls. If repairs

Comparative Operating Statements of Oil Burning Engineers, Inc.

Oct. 1941	Nov. 1941	Dec. 1941	3 Mos. 1941		Oct. 1942	Nov. 1942	Dec. 1942	3 Mos. 1942	% Change
3,086.42	1,709.94	1,152.73	5,949.09	New Burner Sales	964.54	....	....	964.54	— 83.8
				Service Sales					
1,479.27	1,032.13	1,118.00	3,629.40	Call Service	1,928.71	1,055.24	1,494.90	4,478.85	+ 23.4
451.59	451.59	451.59	1,354.77	Contract Service	435.67	462.29	461.71	1,359.67	+ 0.4
1,930.86	1,483.72	1,569.59	4,984.17	Net Service Sales	2,364.38	1,517.53	1,956.61	5,838.52	+ 17.2
5,017.28	3,193.66	2,722.32	10,933.26	TOTAL SALES	3,328.92	1,517.53	1,956.61	6,803.06	— 37.8
2,188.49	1,128.09	794.87	4,111.45	Burner Sales Cost	528.06	....	....	528.06	— 86.9
				Service Sales Cost					
376.26	236.82	318.75	931.83	Materials	313.39	238.39	367.21	918.99	— 1.4
637.79	513.19	434.04	1,585.02	Labor	539.19	680.15	580.24	1,799.58	+ 13.5
33.28	3.90	....	37.18	Other	55.58	25.00	29.99	110.57	+197.4
1,047.33	753.91	752.79	2,554.03	Direct Service Cost	908.16	943.54	977.44	2,829.14	+ 10.7
3,235.82	1,882.00	1,547.66	6,665.48	TOTAL DIRECT COST	1,436.22	943.54	977.44	3,357.20	— 49.6
897.93	581.85	357.86	1,837.64	Gross Burner Profit	436.48	....	....	436.48	— 76.3
883.53	729.81	816.80	2,430.14	Gross Service Profit	1,456.22	573.99	979.17	3,009.38	+ 24.7
1,781.46	1,311.66	1,174.66	4,267.78	TOTAL GROSS PROFIT	1,892.70	573.99	979.17	3,445.86	— 19.2
				Overhead					
400.00	520.00	576.85	1,496.85	Office Salaries	395.96	392.50	392.50	1,180.96	— 21.1
35.00	35.00	35.00	105.00	Rent	35.00	35.00	35.00	105.00	...
39.03	39.95	39.95	118.93	Advertising	42.15	5.50	97.60	145.25	+ 22.1
63.01	64.42	59.35	186.78	Telephone & Telegraph	48.06	19.70	131.83	199.59	+ 6.7
86.04	31.11	61.72	178.87	Sales & Office Expense	36.82	19.45	88.04	144.31	— 19.4
67.23	114.02	43.53	224.77	Free Service	15.78	19.21	26.24	61.23	— 72.8
124.89	96.06	88.94	309.89	Ins., Taxes, etc.	56.13	61.67	36.09	153.89	— 50.3
815.20	900.56	905.33	2,621.09	Total Overhead	629.90	553.03	807.30	1,990.23	— 24.7
966.26	411.10	269.33	1,646.69	NET PROFIT	1,262.80	20.96	171.87	1,455.63	— 11.6

are needed, this is reported both to the customer and to the office. For this conditioning of the heating system, the customer pays $10 to $12, depending on the condition and design of the boiler or furnace. Jobs requiring removal of sides and sections to clean pay a higher price than the more conventional designs.

Under Plan No. 2 the customer buys a summer clean-up and the complete service included in Plan No. 1, and in addition contracts for whatever labor may be necessary to maintain the installation through the heating season. Parts are extra. For this, the charge ranges from $17.50 to $20.00, according to the age, make and condition of the installation.

Plan No. 3 gives all the service of the first two options, plus seven monthly inspections from October 1 through April. The price of this plan varies from $23.50 to $26.00, again dependent upon the work necessary on the installation.

Terms for Plan No. 1 are cash on or before July 1. Under the other plans a half must be paid by July 1, and the balance before December 1. If the customer wishes to send a check with his order, a 5% discount is allowed. It is suggested that dealers reexamine their books to determine the cost of collection on their service accounts. It may be that more cash discounts should be offered on contracts.

Though no serious trouble yet has been experienced by the company due to shortages of manpower or materials, every contract carries a provision that "This agreement is accepted subject to our ability to obtain labor and materials, and can be cancelled at any time, the unexpired portion to be refunded if paid in advance."

Records of work done on each installation are kept in the customer's basement as well as in the office. Each heating plant serviced is supplied with a large shipping tag which is wired to the installation in some conspicuous place. On its face the tag carried the usual, easy to read information on where to call for service when needed. On the back is provided space to record the date of the clean-up, and a record of the inspections that have been made. This show of efficiency costs little, but may mean much to the company as well as the customer.

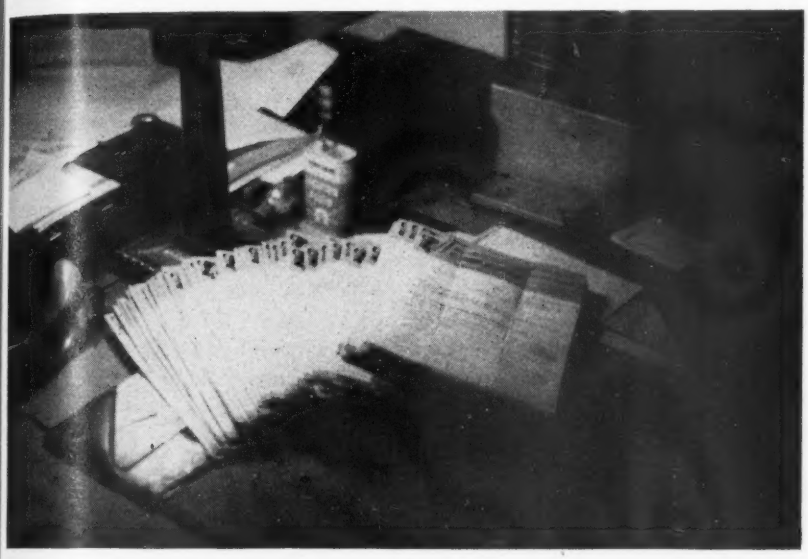
Trips to customers' basements cost money. With two-thirds of the company's service business on a call basis next winter, there is the possibility of too many long and unexpected trips on emergency service. Though the minimum charge is $3.50, it is well to route calls to cut costs.

"That's true," grins Mr. Deatherage. "Because of that possibility we have given up some customers who were too isolated to be profitable. Our longest jump at present is 20 miles to the north where we have enough customers to make it possible to keep a man busy in that general direction. Our territory now reaches only three miles to the city line on the south, a mile east to the lake, and about ten miles to the west. If we get calls outside this territory, we turn them over to companies that are competent in that vicinity. By keeping service men scattered on inspection calls, we are able to route them within our service territory without serious loss of time and mileage."

How diligently and how successfully Oil Burning Engineers has worked on the many problems is shown in the comparison of sales and costs in normal times against those of last winter. Figures used are those for the last quarters of 1941 and 1942, and are representative of the trend that has been established. The last income from oilburner sales occurred on October, 1942, when the company completed and billed the final jobs. From an average income at that time of year of $2,000 a month, new burner sales have disappeared.

In place of oilburner sales income is

the growing dollar volume from service. At the time last fall represented by the figures, the effect of the greater stress on contract sales had not made itself apparent, but the trend is visible. Income chargeable to contract service in the last quarter of 1941 was static, but it was increasing generally through the last quarter of 1942. In its accounting, the company charges off $10 of the contract price when the summer clean-up is completed, and divides the balance into seven monthly installments to cover inspections.



First week's *crop of service contracts*

Call service prices, as well as contract prices, are frozen, and no increase is possible. Therefore, increases in service activity is directly reflected in the dollar volume of service business. All service sales had increased more than 17% over 1941, though total dollar volume of all the company's business was off nearly 38%. This is accounted for by the increase of nearly one-quarter in call service business; new accounts that had not then been sold service contracts.

Service department costs increased only 10.7% while income was increasing 17.2%. A factor not apparent from the figures on the last quarter is the increase in service material sales that took place later in the season. The company stressed the possibility of increasing combustion efficiency by the use of fire-box baffles, and as the colder-than-normal weather bit big holes in users' coupon sheets, they were anxious to save oil in every possible way. Other important items of service materials that swelled this volume during the winter were draft regulators, combustion chambers, and replacement tanks. Chief items of "other" service cost were work done outside the company's own organization, and trucking expense, both of which increased with the greater activity.

Though gross profit from new equipment sales had all but disappeared, the company's total gross profit was down but little more than 19%, due to an increase of nearly one-quarter in service profit.

Overhead was cut principally by reducing the number of people necessary to operate on a reduced scale. Office salaries were down 21%, with resulting reductions in pay-roll taxes, insurance, and the various items of miscellaneous expense attendant to a larger staff. Another substantial reduction was made in the "Free Service" item. This terminology will be misleading to eastern dealers, since it does not represent service given to oil customers, but service rendered under the guarantee on new equipment, and the call-backs and adjustments made in the usual course of service operation, for which it was not deemed necessary to make a charge. Expirations of guarantees now are nearly complete, or will be before next heating season, and the staff is fast learning to handle by telephone the minor adjustments and complaints that formerly were charged to the "Free Service" item.

Yes, it's a neat trick to live, and particularly to live well, on service income alone, but it can be done.

FHA Conservation Loans Now Available up to $2500

TO ASSIST THE NATIONAL DRIVE for fuel economy, the Federal Housing Administration has established a delayed payment plan for loans insured under its Title I program which finance fuel conservation installations this spring and summer, Federal Housing Commissioner Abner H. Ferguson announced.

The FHA has notified the 5,000 private lending institutions authorized to operate under its Title I program that initial payments on loans made between April 20 and September 1 may be deferred until November 1, 1943, if the entire proceeds are used for the conversion of heating equipment to the use of other fuels, for application of insulation within existing structures, or for installation of storm doors, storm windows, or weatherstripping.

In making this liberalization of its Title I loan terms, the FHA's objective is to encourage home owners to undertake fuel conservation work during the warm weather season and thus prevent a heavy congestion of this type of work next fall, Mr. Ferguson said.

Home owners having funds available should undertake fuel conservation work on a cash basis, Mr. Ferguson declared. The Title I plan, he pointed out, is available for the assistance of those unable to pay for such work in one lump sum. The new delayed payment plan will permit them to defer payments until the start of the next heating season.

Under Title I, loans for heat conservation measures are available through lending institutions in amount up to $2,500 and are payable in monthly installments over as long as 36 months. The Board of Governors of the Federal Reserve System have exempted loans for these purposes from its restrictions on consumer credit. Similarly, the construction involved in converting oil or gas burning furnaces to the use of other fuels or in installing inside insulation, weatherstripping, storm doors, or storm windows may be undertaken without authorization from the War Production Board.

◈

Atwater Fuel Corp., New York, has moved to a new location at 2510 Boston Road.

Oil Savings 51.6%

Icebox House Heated to Seventy Degrees on Half the Oil

By

J. W. Schulz

MANY questions about heating the house involved in this trouble-shooting case will never be answered. How much oil would have been saved just by changing the location of the room thermostat? Was it possible to cut the oil consumption 25% by lowering the firing rate and installing a more efficient firebox? Wouldn't additional radiation and proper venting have saved oil?

A scientist sometimes goes about things differently than they were handled here. He alters one factor at a time. There's the story about the doctor out to get facts about a deadly epidemic hitting thousands of natives in the tropics. He gave half his patients pills filled with talcum powder, the other half pills supposed to be the real life-savers, and he tabulated the results. To observe the unassisted natives die like flies was tough on the doctor's finer sensibilities, but wonderful to the cause of pure science.

Engineering this job was different because the object was to give maximum and speedy relief to a freezing family rather than to determine which corrective would save most oil.

With the first snow storms last winter, trouble came to a certain home owner, whose first floor house plan is shown in an accompanying diagram. Noticing that his oil ration coupons were shooting into the hands of his oil supplier at an alarming rate, he kept track of his oil consumption for two half-frozen weeks with the thermostat never set higher than 60° days and at night set at 50°, the rockbottom of the room thermostat.

He used 342 gallons of oil in 14 days. It did not take long to figure that at this rate he and his family would be dead of pneumonia before the winter was half over, and that his oil ration for the year would last just to New Year's Eve. Conference with his oil supplier proved the reliability of this gloomy forecast, so he set out to get technical assistance.

Even before the house was surveyed, several ideas of the burner owner were ruled out. To try to keep the big open fireplace blazing day and night, for example, appeared poorly advised. The inefficiency of the fireplace was a factor; one just does not take readings of the stack temperature and CO_2 of a hard-pushed fireplace. Additional house insulation, in itself, would not make up the difference between the ration and the amount of oil needed for livable temperatures. The top floor ceiling already was well insulated, but with bedrooms kept cold the insulation was not doing as much good as if the top floor rooms were being heated to 70° plus, in the fashion usual for the house. Only eight windows lacked storm sash, and adding the best fitting storm windows to these could not save enough oil.

The logical thing to do, it seemed, was to check on the heating plant, oil burner, and house, and try to work out ways to get along on the ration—or to go halfway at least, and rely for the rest on the mercy of the local rationing board.

Radiation figures and dimensions of the first floor rooms are shown in an accompanying diagram. The total radiation in the house was listed during the survey:

First Floor	
Living Room	80 sq. ft.
Dining Room	48
Kitchen	27
Breakfast Room	22½
Hall	18
First Floor Total	195½ sq. ft.
Second Floor	
#1 Bedroom	55 sq. ft.
#2 Bedroom	49½
#3 Bedroom	27
Bath Room	15¾
	147¼ sq. ft.

Total Standing Radiation Load 342¾ *sq. ft.*

A 68 gallon hot water tank, part of a summer-winter layout, was connected to an indirect water heater capable of heating the water in the tank 100° rise in about three hours. Well arranged, the hot water tank was installed horizontally, close to the basement beams, and it was well insulated.

A heat loss check-up of the rooms showed that the radiation was something less than scanty. In the living room on the first floor, and in all the rooms on the second floor, the radiation would have to be increased by 25% to 40% before under-radiation could be ruled out as cause for high oil consumption. The man who laid out the first floor radiation must have distributed it in proportion to floor area rather than according to heat losses of the different rooms.

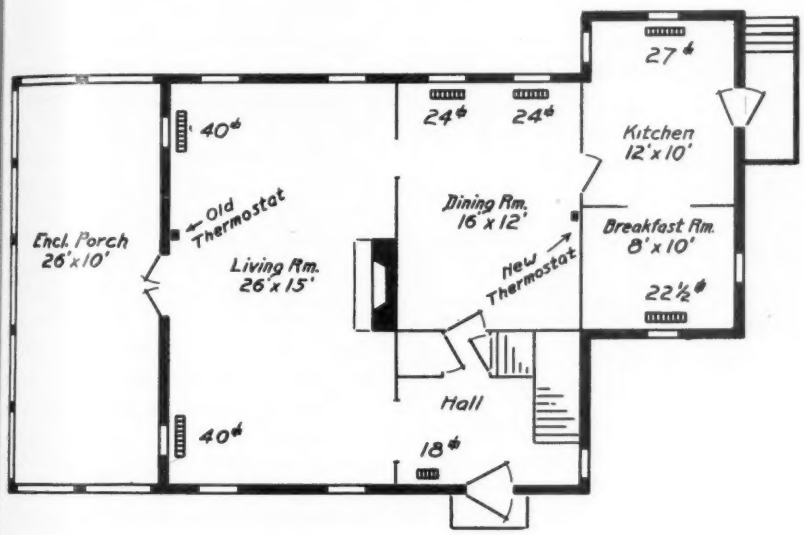
Unbalanced Radiation

Though the dining room had little outside wall and few windows for its floor area, for example, it was heated by one square foot of steam radiation for every 4.0 square feet of floor area; whereas the living room, with a great deal of outside wall (three sides outside wall for the living room, compared to one outside wall for the dining room) and six windows and a set of French doors to an unheated enclosed porch, had but one square foot of radiation every 3.6 square feet of floor area. The living room was stamped as a hard-to-heat room, and the dining room as a well protected, easy-to-heat room.

On the survey sheet, a big question mark was placed after the note indicating where the thermostat was located. Surely this was an outside wall if ever there was one, and next to large, leaky French doors at that! By no stretch of the imagination could the enclosed porch be considered as protecting the living room from losing heat at night and on cold days when there was little sun. The thermostat location indicated that setting it for 70° on a cold day would bring the actual living room temperature to about 80°, and that under these conditions even the under-radiated bedrooms would be heated

to more than 70° if steady steam pressure on the boiler could accomplish this.

A heart-to-heart talk with the owner of the house and his wife came before a thorough inspection of the heating equipment in the basement. Engineering for drastically reduced fuel consumption included in this instance, as it often does today, manipulating the family's living arrangements. Only three people occupied the house, the man and wife and a son of high school age. Could they see sense in keeping part of the house cozy and warm, perhaps even up to 72°, as a reward for



leaving the large living room unheated? To regard it a better way, how would they like to be able to heat every needed room to the government-recommended 65°, and still have oil coupons left over?

The dining room could easily be used as a living room, and the breakfast room as a dining room. This would be only for the duration of the oil shortage, of course, for the slight changes to be made to the radiation, fortunately one-pipe steam type and therefore easily shifted about, could be made in an hour or two and undone as quickly. The conference with the family resulted in these recommendations:

1. Turn the dining room into a living room temporarily and plan to keep the living room radiators turned off at all times. (Plugging the vent-valve openings of the radiators in the living room, later, was just one step taken to make sure the recommendations would not be regarded too lightly.) Use the breakfast room as a dining room.

2. Switch the radiators in the dining room and living room, placing the two 40 sq. ft. radiators in the old dining room, and the two 24 sq. ft. radiators in the old living room. This factor, too often overlooked when rooms are left unheated, was cared for by this switch: Turning off the heat in a room adds an "outside wall" to an adjacent heated room, and, at that, a thin wall which is not as good at heat-blocking as a regular outside wall. More radiation is needed in this old dining room with the living room cold, as the dining room then will lose considerable heat to the living room through the thin wall which separates them.

3. To make the new living room, which was the old dining room, just doggone easy to heat, install two radiator vent-valves on each of the 40 sq. ft. radiators now in this room. Of the adjustable high-speed type, both of these vent-valves are to be set for most rapid venting. The idea is to rush the steam from the boiler to these much-favored radiators just about as quickly as the boiler generates the first whiff of steam.

Isolate Rooms

4. Close the door opening between the dining room and the living room with a tight-fitting door. This can be done easily, as there once was a door in this opening. Close up the arched opening between the lower hall and the old living room by hanging heavy drapes that will be very effective in blocking heat-flow through this doorway.

5. Install a new thermostat at the location shown in the diagram. Discard the old thermostat because it is an obsolete model, one of the earliest room thermostats equipped with an electric heater, and it tends to give short "on" periods of less than six minutes. These are too short for efficient operation of the burner. The new thermostat should permit easy adjusting for accurate operation with the burner running 20 to 30 minutes at a time.

The idea was to give the old dining room, now the living room, about three or four times as much heat as it received before when the burner ran for 20 or 30 minutes. With 80 instead of 48 sq. ft. of radiation in this room and the radiation double-vented, of course the other rooms will receive less heat. After an explanation, the home owner understood that lower than normal temperatures in some rooms was the price of meeting the ration with the new living room heated to 70°. If experiences later showed an urgent need for more heat in any room, the radiator of that room could be double-vented, to place it more nearly on par with the living room radiators.

Double Venting

Double-venting consists of drilling and tapping a ⅛" IPS opening about four inches above the opening provided by the radiator manufacturer for the original vent-valve. For best results, install two modern, fast-venting valves, and set them both for maximum venting speed (adjust later, if tests show this is needed). This lets out air twice as fast as with just one vent-valve on the radiator, and causes the steam to fill the radiator just that much faster. Coupled with good judgment, the idea works wonders on one-pipe steam.

Up to four vent-valves have been used to good advantage on one radiator in unusual instances where drastic measures were needed. Overworked, the idea causes other radiators to heat poorly by letting the favored radiators "hog" the steam. Also, in oil-fired systems fired much harder than they should be, multiple venting can cause splashing of water and pounding due to the radiators' filling with steam too rapidly. Based on considerable experience with this principle, it is impossible to overwork it by installing two radiator vent-valves on a radiator of any steam plant, not being fired twice as hard as it should be fired.

The upstairs changes were only half the work on this job, as the Before-and-After firebox diagrams indicate.

The big faults in the boiler room were:

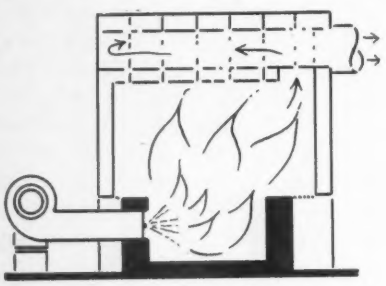
1. Firing rate 3.0, much too high for the load on the boiler.

2. Old-style firebox of these dimensions:

Nozzle height 8″
Side height 11″
Width 16″
Length 25″

The firebox was too large, and the side walls too low for efficient combustion.

3. Many air leaks were around the combustion space and higher in the boiler.



Before

3.0 *gph*
6.5% CO_2—*Smoke*
890° *Stack Temperature*
.08″ *to .11 Draft*
40% *Chimney Loss*
60% *Absorp. Effic.*

Those near the fire were responsible, together with the large firebox and the high draft, for the dirty burning at 6.5% CO_2. Had the air leaks high in the boiler been sealed, the stack temperature probably would have exceeded 890°.

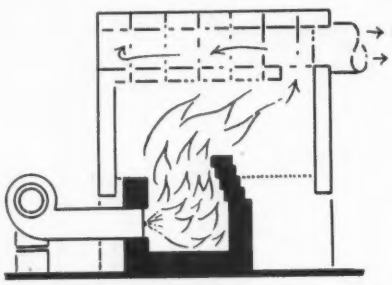
4. Firebox draft (the readings given in the chart are firebox draft, not smoke outlet draft) was excessive because of defects in the draft regulator.

These defects were eliminated. The new firebox was built of modern material, producing an easy-to-heat box. The new combustion chamber is red-hot when the burner is turned off after it has been operating for five minutes, whereas the old firebox did not become as hot after the burner had operated steadily for one hour. Dimensions of the new firebox are as follows, for the 1.5 gph firing rate:

Nozzle height 7″
Side height 16″
Width 14″
Length 16″

Guessing undoubtedly had been the method used to arrive at the original firing rate of 3.0 gph, and probably was the basis for "designing" the original firebox. By no engineering methods would a burner man use 3.0 gph for a heating load of 342¾ sq. ft. of steam radiation plus an indirect water heater sized for a 68 gallon hot water tank.

Dimensions of the new firebox are based on firing 2.0 gph maximum, when the oil shortage is past and the total load is on the boiler once more. The new firebox has 224 sq. in. floor area, hence 2.0 gph would mean firing one gallon-per-hour for each 112 sq. in. firebox floor.



After

1.5 *gph*
9.4 CO_2—*Clear*
465° *Stack Temperature*
.02 *Draft*
18% *Chimney Loss*
82% *Absorp. Effic.*

True, the 1.5 gph fire appears small for this boiler (inside dimensions of the boiler at the bottom of the water leg are approximately 18″ wide, 35″ long). Perhaps inability to produce higher than 9.4% CO_2, without smoking and boiler-sooting on cold starts, is related to the low firing rate. Yet this low firing rate, with the hot fire that results from the new firebox and the 9.4% CO_2, causes the boiler to steam from cold as rapidly as did the old, oversize and inefficient fire; and the low firing rate does give 465° stack temperature.

Fired at 2.0 gph during normal times to carry the full house load, the boiler should give a stack temperature no higher than 600°. At this firing rate there will be enough boiler capacity, in all probability, to handle the 40-odd sq. ft. additional radiation for the living room, which in normal times will be needed to hold down oil consumption.

The absorption efficiency figures given in the Before-and-After chart are interesting, but interpret them properly. They were arrived at by deducting the stack loss from 100%. The stack loss was estimated only through the use of the CO_2 and stack temperature data, and is based on clean burning and continuous operation of the burner. The assumptions are, of course, not accurate. Efficiencies are lower with on-off firing than with continuous firing. The penalty of reduced efficiency is greater with short "on" periods, say shorter than 10 minutes, than with burner "on" periods longer than 30 minutes.

For improved efficiencies and proper heating of every radiator before the burner stops on each on-off cycle, an on-off recorder was used on this installation to help arrive at the proper adjustment for the differential or sensitivity of the room thermostat. The same instrument was indispensable in arriving at close adjustment of the firing rate.

A few weeks after the changes has been made, the owner of the house telephoned news of his new rate of oil consumption. Instead of using 342 gallons in 14 days, for slightly colder weather he was using 118 gallons in 10 days. That meant the consumption had been cut from 24.4 to 11.8 gallons per day, a saving of 51.6%. Bedrooms, he reported, were not as cold as before the changes were made. The bathroom was warmer. The new living room, pride and joy of the family because of the warmth they now enjoyed in it, was being maintained at something like 72° or 74° from 6:30 A.M. to 10:30 P.M., and the kitchen and breakfast room, next to this warm room, were as warm as could be desired. On the amount of oil they could get, the family was as comfortable this winter as during any previous winter.

◈

Owens-Corning Fiberglas Corp. has received renewals for six months of its Army-Navy "E" Awards at its Newark, Ohio, and Ashton, R. I., plants.

William J. Debler, formerly connected with Petroleum Heat & Power Co., and with The Miller Co., has opened a Philadelphia office as manufacturers' representative serving Middle Atlantic states, to distribute the General Filter and the Herd Thermostatic Damper Control.

Space Heaters, Range Burners Get New Rationing Yardsticks

FUZZIEST SPOT IN THE rationing program last season had to do with space heaters, portables and range burners. This was due to lack of understanding about their characteristics, their applications and their fuel consumption. Rationing officials and many industry men were together in the same fog. But after several months' experience, definitions and procedures have been worked out for next season.

The space heater definition includes parlor stoves, room heaters, portable heaters, floor furnaces and kitchen ranges with solid metal tops (this is the so-called "range burner," now included as a space heater). A portable heater is defined as one with a handle or bail.

Portable Heater Ration

The ration for a portable heater is to be based upon the floor area of the largest single room in which used, and for which there is no other means of heating. The maximum floor area which should be calculated for a *non-portable* space heater is 550 sq. ft., but the local board may exceed this ceiling if convinced that more space is actually being heated. Proof of this might include: the floor area of the room containing the heater plus the area of all rooms opening into it exceeds 550 sq. ft.; an open stair well or ceiling register permits heating both upstairs and down, and the sum of upstairs and downstairs heated rooms exceeds 550 sq. ft.; certified past consumption, plus reported floor area, indicate that more space has been heated in the past; proof that the space heater has a capacity to heat more than 4,400 cubic feet in that region.

Where the space heater is a kitchen range with solid metal top, only a heating ration is to be allowed if the claimed floor area is 550 sq. ft. or more, but both a heating and cooking ration, where called for, will be allowed when the floor area is less. However, the combined cooking and heating ration is not to exceed a heat ration based on the mid-point of the range for 550 sq. ft.

Where a family uses two or more non-portable space heaters, neither of which is a kitchen range, the ration for each is to be determined separately, allowing a maximum of 550 sq. ft. for each heater, assuming, however, that each unit does a full-time heating job.

If a home contains two or more non-portable space heaters, one of which is a kitchen range, the ration for the range shall be the normal cooking allowance plus heating based on the kitchen area only; the ration for the additional heaters will be figured in the way previously described.

If portable and non-portable space heaters are required in the house, the ration will be determined separately, then added, but boards are cautioned to not duplicate any part of the floor area.

Where space heaters are used in homes having central heating plants, the space heater ration shall be based only upon the area not served by the central plant. If the heater is a kitchen range, the ration shall include cooking plus the floor area allowance for the kitchen only.

Range Burner Hot Water

Some kitchen ranges have coils or water backs which furnish domestic hot water; the maximum water heating allowance in such instances is 10 gallons a month, regardless of family size.

When space heaters are used in house trailers, boards will follow a somewhat different procedure. In general, such space heater applicants get about twice as much oil per square foot as home users.

There have been a few minor changes in the program for central heating and other fueloil applications since the plan was reported in the last issue. Ration banking for dealers is mandatory if the dealer sold 250,000 gallons or more the past season; for consumers with heat and hot water rations of 50,000 gallons or more, banking is mandatory . . . it is optional if they use 20,000 to 50,000 gallons. For fueloil users for purposes other than heating or hot water, ration banking is mandatory above 12,500 gallons, optional between 5,000 and 12,500.

It was previously stated that a tear-off stub on the simple form the consumer uses when asking for his next season's ration is to contain the name of his dealer, the amount of the ration and the grade of oil, and that this is passed from the board to the dealer and then upstream through distribution channels. This may be changed. The supply and distribution committees want the information first, to guide summer stock-piling, so the original procedure may be reversed.

Forms for next season's plan will be out in early June. Eighteen meetings for industry men, led by rationing officials, are scheduled for this month. At least two of the following Washington men will attend each meeting: Joel Dean, Director Fuel Rationing Div.; Wallace Sayre, Asst. Director; Laurence Vass, Chief, Fueloil Branch; Thos. J. Reynolds, Head Program Planning Sec.; Geo. S. Traver, Head Industry Relations Sec.; Arthur J. Sullivan, Head Supply Unit; Howard H. Horton, Head Trade & Industry Relations Unit. The schedule is: June 14, Boston, Rochester, Chicago; June 15, Portland, Me., Cleveland, Milwaukee; June 16, New York, Detroit, Minneapolis; June 17, Philadelphia, Indianapolis, Omaha; June 18, Baltimore, Kansas City; June 19, St. Louis; June 21, Atlanta; June 22, Savannah; June 23, Jacksonville.

Forms Illustrated

Some of the new forms for the coming season's rationing are shown on the next page. The coupon sheet illustrated is Class 5. The other two new coupon sheets, Class 4 and 6, are similar in appearance with smaller and larger coupon values. Instructions to local boards are to follow, in general, this procedure in issuing coupons for heat and hot water:

Rations under 300 gallons, issue Class 3 coupon sheets (this sheet was used last season, all fixed-value coupons).

Rations between 300 and 500 gallons, issue Class 4 coupon sheets and tailor to the next higher ten gallons (the Class 4 sheet actually contains 800 gal. in coupons, of which 140 gallons are change-makers. From the dealer's standpoint, however, it is more desirable to use the Class 5 sheet down to 500 gallons since this sheet has 200 gal. change, but it's only practical where the customer's tank is big enough to handle the 50-gal. units on the Class 5 sheet).

Rations between 500 and 4,000 gallons, issue Class 5 coupon sheets unless the storage capacity shown on the original application is less than 100 gallon, in which case issue Class 4 sheets. Tailor Class 5

sheets to the next higher 50 gallons.

Rations between 4,000 and 20,000 gallons, issue Class 6 coupon sheets and tailor to the next higher 250 gallons.

Rations between 20,000 and 50,000 gallons, issue Class 6 coupon sheets unless the applicant requests a fueloil deposit certificate for ration banking.

Rations over 50,000 gallons, issue fueloil deposit certificate for ration banking (the ration banking certificate is illustrated on this page).

When the ration is for non-heating uses the basis is fixed-value, issued quarterly, and boards are instructed as follows:

Rations under 5,000 gallons, issue Class 3 coupon sheets in coupon denominations as large as the customer's tank will accommodate.

Rations between 5,000 and 12,500 gallons, issue Class 3 coupon sheets unless the applicant requests a ration banking deposit certificate.

Rations over 12,500 gallons, always issue banking deposit certificate.

On the next page is shown the customer's re-application form, which will be mailed to him by the local board early in June. There is no compulsion for him to return it promptly, but the fueloil distributor should urge him to send it in at once, for Summer fill-up reasons.

Five amendments to Fueloil Ration Order 11 have been issued since the May number. These are:

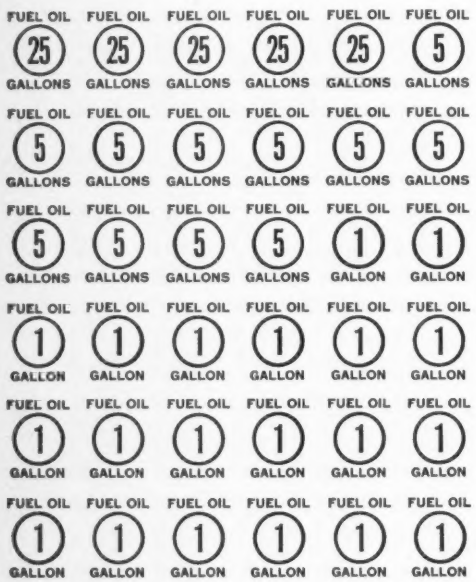
Amendment 61: Stops emergency deliveries as of May first.

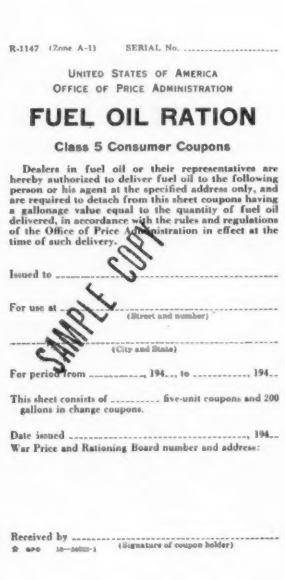
Amendment 62: Provides that a person to whom a ration has been issued for furnishing hot water only to residential premises other than a private dwelling may apply for a substitute ration if circumstances have changed or needs were miscalculated.

Amendment 63: In the Pacific Northwest any user with 150 gallons or more storage facilities may receive after May 15, and without application, 40 to 45% (depending on Zone) of his next season's total ration. Northwest bulk storage facilities are so limited, that it is necessary to get a much as possible into customers' tanks now.

Amendment 64: Excludes private dwellings from the definition of "convertible facilities," and in general outlines the new conversion policy reported in the May issue.

Amendment 65: Permits kerosene rations for Summer cooking, even though the applicant has a coal or wood cook stove.




R-1147 (Zone A-1) SERIAL No. .....

UNITED STATES OF AMERICA
OFFICE OF PRICE ADMINISTRATION

FUEL OIL RATION

Class 5 Consumer Coupons

Dealers in fuel oil or their representatives are hereby authorized to deliver fuel oil to the following person or his agent at the specified address only, and are required to detach from this sheet coupons having a gallonage value equal to the quantity of fuel oil delivered, in accordance with the rules and regulations of the Office of Price Administration in effect at the time of such delivery.

SAMPLE COPY

Issued to .....

For use at ..... (Street and number)

..... (City and State)

For period from ....., 194.., to ....., 194..

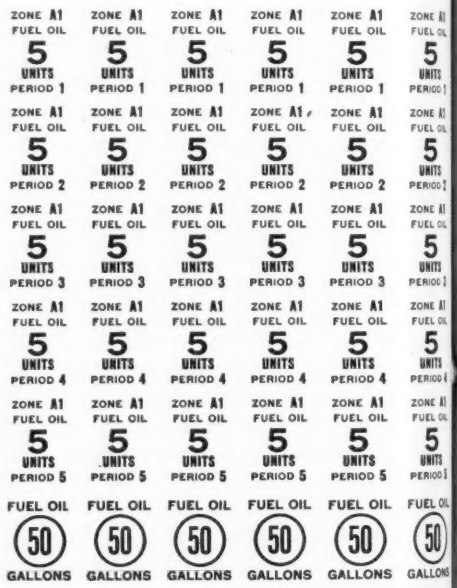
This sheet consists of ..... five-unit coupons and 200 gallons in change coupons.

Date issued ....., 194..

War Price and Rationing Board number and address:

Received by ..... (Signature of coupon holder)

☆ GPO 16—56022-1


ZONE A1 FUEL OIL 5 UNITS PERIOD 1
ZONE A1 FUEL OIL 5 UNITS PERIOD 2
ZONE A1 FUEL OIL 5 UNITS PERIOD 3
ZONE A1 FUEL OIL 5 UNITS PERIOD 4
ZONE A1 FUEL OIL 5 UNITS PERIOD 5
FUEL OIL 50 GALLONS

Form OPA R-1170

RATION BANKING

FUEL OIL DEPOSIT CERTIFICATE

UNITED STATES OF AMERICA
OFFICE OF PRICE ADMINISTRATION

Serial No.

SAMPLE FORM

Issued to .....

For use at ..... (Complete address)

QUANTITY IN FIGURES

..... Gallons

..... Gallons (Quantity in words)

Board No. .....

..... (Date)

County and State .....

..... (Signature of issuing officer)

This certificate is valid only for deposit in the ration bank account of the person to whom issued. It must be endorsed before being deposited.

OPA FORM R-1167
(5-1-43)

UNITED STATES OF AMERICA
OFFICE OF PRICE ADMINISTRATION

Form Approved.
Budget Bureau No. 08-R442

APPLICATION FOR RENEWAL OF FUEL OIL RATION FOR HEAT AND HOT WATER

(To be used only by those whose ration last year was for the *same address*)

THIS COLUMN FOR OPA USE ONLY

Date .....

Board number and address:

Ration approved for ..... gallons.

COUPONS ISSUED

Change-making coupons—
Number of gallons .....
Other coupons—
Number of coupons .....

SERIAL NUMBERS OF SHEETS

.....

.....

....
(Board member) (Issuing officer)

REMARKS

FILL IN THIS COLUMN
(SEE INSTRUCTIONS ON BACK)

1. NAME AND FULL ADDRESS OF APPLICANT (Print or type):

....
(First name) (Initial) (Last name)

.....

2. ADDRESS WHERE RATION WILL BE USED (If same as above, write "same"):

.....

3. NAME OF LAST YEAR'S APPLICANT (If same as above, write "same"):

....
(First name) (Initial) (Last name)

4. **I APPLY FOR MY 1943–44 RATION UNDER THE NEW FUEL OIL REGULATIONS.**
If you will need less oil next year, show how much less than your "basic ration" for 1942–43 you will accept. (*See Instructions on back.*)

I will accept ..... gallons less than last year's basic ration.

....
(Date) (Sign here) 16—74382-1

Board number and address (include county):

.....

TYPE OF RATION

Check one:

1. ☐ Private Dwelling (R–1100)
2. ☐ Other Residential Building (R–1101)
3. ☐ Nonresidential Building (R–1101)

Gallons

TOTAL 1943–44 RATION..... [ ]

5. Give below the kind of oil you use and the name and address of the supplier from whom you buy most of it. This information must be obtained if our scarce supply of oil is to be distributed in accordance with ration needs.

Supplier's name .....

Address .....

Check kind of oil used:

1. ☐ Kerosene
(Range oil, No. 1, coal oil, stove oil, lamp oil, etc.)
2. ☐ Light Fuel Oil
(Furnace oil, Nos. 2, 3, or 4 fuel oil, Diesel oil, etc.)
3. ☐ Heavy Fuel Oil
(Residual oil, Nos. 5 or 6, Bunker C, etc.)

1-3492 nobu-wb

Automatic Rationed Deliveries

Should be Entirely Workable Next Season if Carefully Planned

By

F. B. Caldwell*

FUELOIL CUSTOMERS needed help from their oil man during the first season of rationing, to know how to stretch their rationed fueloil over the season. If they got that help they were lucky, as most oil men were too busy counting, sorting and pasting coupons to give their customers the help they needed.

No one knew how severe the winter was going to be, and customers generally had no yardstick to measure the extent of conservation necessary to come out even. As a result many oil companies, in despair, threw overboard their automatic delivery systems. However, there were others who hung on to their systems, operated by trial and error, and gave customers helpful information. Some of this latter group through persistent effort were able to do a creditable job of scheduling degree day deliveries, despite the restrictive rationing periods. The method used in tailoring coupons which took some of the inventory cushion from each period further complicated deliveries.

The unsung heroes of the fueloil rationing blitz were the boys and girls on the degree day desks. As one operator put it,—"That paper weight with the glass ball on it, that looks like a crystal gazers gadget, helped a lot. I just looked at the ticket, made the calculation, and then looked into that little glass ball. It seemed to help get a picture of where to file the card to come up a little later to allow for rationing. When the card came up we checked the customer's valid coupons. This slowed us up some because he seldom had the valid coupons we would like to have. But the delivery was made and the knowledge we got of how he was getting along gave us another starting point. After a while we got so we didn't need the crystal ball."

Some distributors made it a point to find out how much their customers were rationed. A knowledge of the customers ration cut, for example, one-third cut, meant he had to be 50% more efficient in the use of his oil. The next page chart, compiled by the Measurement Methods Co., Chicago, shows the increased efficiencies required for various ration cuts. Figures shown therein were based upon the expetancy of an average season.

For example:—Customer used 3,000 gallons in an average season and was cut 33-1/3%.

200 gallons for this customer was normally good for, say, 400 degree days.

Under rationing it would have to last him (see table) 49.2% longer; (applied as 50%) or 600 degree days. The distributor knew that, but most customers didn't.

File Card Half Way

The customer card was filed at just half that figure, or at 300 D.D. When the card came up at 300 D.D. ahead, it was apparent that only one-half of the degree days allowed had accumulated. Whenever a card appeared in this manner it was a signal to notify the customer. One-half of his last delivery (200 gallons from the above example) or 100 gallons, plus the reserve shown on his card should have been on hand in his supply tank. He was notified accordingly, that if he had less than that amount he was exceeding his ration and should remedy the situation.

This method of filing at the "half way point" enabled distributors to advise their customers to close off more rooms, use lowered night temperatures, close windows, pull blinds, add weather strip, storm windows or insulation or have his burner adjusted if he had not done so, or to call his supplier for suggestions.

Some oil companies who held coupons on deposit, notified customers by post card, the number and value of coupons remaining after each delivery. They also told the customer he was running ahead or behind or was doing alright in the use of his ration. Appraisal of his position was of course based upon a normal season.

With a year of experience with rationing, distributors who held on to their automatic delivery systems seem confident that operations under the new rationing plan will be comparatively simple. A customer's use under rationing is no longer a matter of conjecture. Records show both the gallonage used and the degree days accumulated. This supplies basic information for determining a new rate of fuel use. Under the '43-'44 plan, customers will get substantially what they got last year,—larger homes and exceptionally small, centrally heated homes somewhat more. However, the reissuance of rations will not include any supplementary ration. In order to get the same or more oil which may have been allowed under a supplementary ration in '42-'43, a cus-

Conversion Table

K	*Base*	*K*	*Base*
10.0000	1000	2.5000	4000
9.0909	1100	2.4390	4100
8.3333	1200	2.3809	4200
7.6923	1300	2.3255	4300
7.1426	1400	2.2727	4400
6.6666	1500	2.2222	4500
6.2500	1600	2.1739	4600
5.8823	1700	2.1276	4700
5.5555	1800	2.0833	4800
5.2631	1900	2.0408	4900
5.0000	2000	2.0000	5000
4.7619	2100	1.9607	5100
4.5454	2200	1.9230	5200
4.3478	2300	1.8867	5300
4.1666	2400	1.8518	5400
4.0000	2500	1.8181	5500
3.8461	2600	1.7857	5600
3.7037	2700	1.7543	5700
3.5714	2800	1.7241	5800
3.4482	2900	1.6949	5900
3.3333	3000	1.6666	6000
3.2258	3100	1.5384	6500
3.1250	3200	1.4285	7000
3.0303	3300	1.3333	7500
2.9411	3400	1.2500	8000
2.8571	3500	1.1764	8500
2.7777	3600	1.1111	9000
2.7027	3700	1.0526	9500
2.6315	3800	1.0000	10000
2.5641	3900		

"K" indicates Degree Days per gallon.

"Base" indicates gallons per Degree Day by placing decimal point four places to the left. For example: 5000 Base indicates .5000 gallons per Degree Day. The ciphers may be disregarded, indicating .5 or ½ gallon per Degree Day. A Base of 10,000 or larger indicates 1.0000 gallons per Degree Day. Disregarding ciphers this indicates 1 gallon per Degree Day.

To find a customer's gallonage for an Average Season: For example, 6378 Degree Days for Chicago, divide by "K," or multiply by the gallons per Degree Day figure which is obtained from "Base."

*Secretary, Burning Oil Distributors Association, Chicago.

Increased Efficiency Necessary Under Fueloil Rationing

Ration Cut From Normal	Ration % of Normal	Increase Required for Degree Day Term or Forecast
1%	99%	1 %
2%	98%	2 %
3%	97%	3 %
4%	96%	4 %
5%	95%	5 %
6%	94%	6.4%
7%	93%	7.5%
8%	92%	8.6%
9%	91%	9.8%
10%	90%	11 %
11%	89%	12.3%
12%	88%	13.6%
13%	87%	14.9%
14%	86%	16.2%
15%	85%	17.6%
16%	84%	19 %
17%	83%	20.4%
18%	82%	21.9%
19%	81%	23.4%
20%	80%	25 %
21%	79%	26.5%
22%	78%	28.2%
23%	77%	29.8%
24%	76%	31.5%
25%	75%	33.3%
26%	74%	35.1%
27%	73%	36.9%
28%	72%	38.8%
29%	71%	40.8%
30%	70%	41.4%
31%	69%	44.9%
32%	68%	47 %
33%	67%	49.2%
34%	66%	51.5%
35%	65%	53.8%
36%	64%	56.2%
37%	63%	58.7%
38%	62%	61.2%
39%	61%	63.9%
40%	60%	66.6%
41%	59%	69.4%
42%	58%	72.4%
43%	57%	75.4%
44%	56%	78.5%
45%	55%	81.8%
46%	54%	85.1%
47%	53%	88.6%
48%	52%	92.3%
49%	51%	96 %
50%	50%	100 %

tomer will be required to apply in October. Meanwhile a rate of fuel used, based on the reissued ration and the '42-'43 degree days will be, to some extent, misleading, as actually, more oil may have been used.

An increase of 10% of the reissuance gallonage is recommended for use in setting up "Base" or "K" factors to allow a margin of safety for scheduling automatic deliveries next season. Re-adjust the factor if it is later found that no supplementary ration was granted last season.

Let's assume a customer received a '42-'43 ration for 1,800 gallons and was allowed a supplementary ration of 150 gallons. He will receive an original reissuance of 1,800 gallons. If, for example degree days totaled 5,600 (assume normal for the zone was 5,000) we can set up "K" of 3.1 or "Base" of 3,200. Such would seem to be the case as the customer apparently got by on the 1,800 gallons, as we have no knowledge as yet of the supplementary ration. So we fill on the first delivery of say 220 gallons. This is good for (3.1 "K" x 220, or 220 divided by 3,200 "Base") 680 degree days. However we learn in the Fall after the first delivery has been made that he received and used last season, 150 gallons supplementary ration. This would establish "K" of 2.8 or "Base" of 3,500 on basis of 1,950 gallons and 5,600 degree days. Following the above recommendation for a 10% increase in the reissuance gallonage figure would have accomplished the same result. Some of the most successful distributors throughout the Mid-West have for several seasons been using a system of control for operating their automatic deliveries, which makes use of a degree day calculator made by the Measurement Methods Co., Chicago. The calculator, known as the Percentagraph, also calculates "Base" or the factor which indicates gallons per degree day required by all customers.

The Percentagraph is designed to show immediately the relationship of degree days to gallonage and vice versa. It therefore indicates all the answers to degree day operations and speeds up the system by eliminating multiplication and long division with pad and pencil.

"K" Change Practical

As there was no way of telling in advance, during the '42-'43 season, how customers would use their rations, it was inadvisable to change the "K" or "Base" factors. Instead, the most successful operators made allowance for the necessity of increased efficiencies in the use of rationed fueloil, as shown in the attached chart, and notified their customers how they were progressing so they could come out satisfactorily on their rations.

Now, however, an analysis of the industry's experience with one season of rationing, leads to the conclusion that a new "K" or "Base" factor should be set up for each customer, based upon his actual use under rationing.

A safety factor, reflecting caution as above suggested, through increasing the customers reissued ration by 10% to set up "K" or "Base" will result in deliveries scheduled for a slightly advanced date in some cases. However when the extent or amounts of supplemental rations allowed last season and granted again for next season, are determined,—the automatic deliveries will be "on the beam" again.

New York Harbor Area OPA Industry Committee

BECAUSE THE NEW YORK HARBOR area is the largest fueloil consuming region in the country and has many problems of concentration not felt in other cities, the Fuel Rationing Division of OPA recommended that a committee of fueloil distributors be formed to consult with the regional and state directors for smoother rationing operation.

The panel selected has 13 members, some from each of six fueloil and oilheating associations. The members are:

From the Westchester Oil Trades Assn., Herbert Spade, of E. Robison, Inc., 100 E. Hartsdale Ave., Hartsdale, N. Y.; Edward L. Emes, Socony-Vacuum Oil Co., Inc., Edison Ave., Mt. Vernon, N. Y.

From the Bronx Fuel Oil Board of Trade, Frank Howard, Rasol Fuel Oil Corp., 2616 E. Tremont Ave., Bronx, N. Y.; Albert Schildwachter, F. M. Schildwachter & Sons, Inc., 1769 Webster Ave., Bronx, N. Y.

From the New York Terminal Assn., Joe Farrell, Burns Bros., 11 West 42nd St., New York, N. Y.; Sam Kobre, Preferred Oil Co., Inc., 400 Carroll St., Brooklyn, N. Y.; F. T. Johnson, Petroleum Heat & Power Co., Inc., 511 Fifth Ave., New York, N. Y.

From the Long Island Petroleum Dealers Assn., C. W. Caverno, Norge Corp. of New York, 162 Atlantic Ave., Lynbrook, N. Y.; H. J. Schwindt, Roxen Utilities, Inc., Hampton Road, Oceanside, N. Y.

From the Long Island Terminal Assn., Fred Hayes, Nassau Utilities Fuel Corp., Main St. off Landing Road, Roslyn, N. Y.; Harvey Lewis, Lewis Coal & Oil Co., Inc., 65 Shore Road, Port Washington, N. Y.

From the New York Oil Heating Assn., Inc., Albert G. Baerenklau, Baerenklau & Co., Inc., 740 Jamaica Ave., Brooklyn, N. Y., Harry Evans, Kleen Heet Sales Corp., 916 Bergen St., Brooklyn, N. Y.

Chairman of the group is Harry Evans, and secretary Joe Farrell.

Mid-West Dealers Organize Under O H I

MEETING AT CHICAGO, May 14, 147 Middle West oilheating dealers voted unanimously to organize the dealer and distributor side of the business locally and regionally and to tie in these groups as a part of the national organization under the Oil-Heat Institute of America. Representation at the meeting covered every principal market in the Midwest, and expressions from the floor indicated a now-or-never determination to pull all parts of the oilheating industry into one cohesive group for its own protection, and eventual promotion.

The meeting was held under the sponsorship of the Burning Oil Distributors Association of Chicago, and the Chicago Oil Burner Association. Frank Spencer, president of BODA opened the meeting by outlining the need for concerted action to protect the industry against attacks currently being made against it in public statements by uninformed or competitive interests. He cited the scattered attempts to organize in the past, and pointed to the need for a revival of these organizations to help in solving the industry's present and future problems.

To Protect Users

W. A. Matheson, chairman of the Oil-Heat Institute's Advisory and Postwar Planning Committee, presided at the meeting. He cited the present problems of keeping 20,000,000 oil users informed on such subjects as the probable oil supply, their rights under the emergency measures that have been adopted, and how they can help to protect their investment in better living.

"This industry can be a powerful force for good," Mr. Matheson told the meeting. "We have an opportunity to shape our course toward a better future—a future that is sure to come when living standards are measured by comfort, not by coupons. Either we will plan for and work toward that future, or a different future will be planned for us by people who are less sympathetic to our users and our industry."

C. E. Lewis, president of OHI, presented the future of the oilheating business in terms of probable market for oil and equipment.

"There are now 14.5 million centrally heated homes in the country," Mr. Lewis said, "of which only 4 million are automatically fired. About 800,000 of the remaining 10.5 million hand fired heating plants need replacement every year. Add to this something more than a million new homes a year to be built after the war, and the potential market becomes about 2 million installations a year after the war, or a $500,000,000 market. We want our share of this market, and want to get this business at a profit. We can develop this market working together collectively in a way that is not possible if we all go after it as individuals.

Needs Dealer Advice

"In order to make the best possible progress toward this market, Oil-Heat Institute needs the counsel and advice of every oil heat dealer in the country," Mr. Lewis continued. "To get this help we propose that the presidents and secretaries of your associations become members of the Oil-Heat Institute Dealer Council, three members of which will be members of the Board of Directors of Oil-Heat Institute of America, and the president of the council will be a member of the Institute's Executive Committee to represent the wholesale and retail side of the field in shaping Institute policy and activity."

Spontaneous pledges of cooperation in the OHI organization were delivered from the floor, and W. F. Schierholz of St. Louis presented a resolution, unanimously adopted by the meeting, embodying the following points:

1. That a national organization is both desirable and necessary.

2. That the most desirable method of forming such an organization will be by effecting affiliation with Oil-Heat Institute of America by the local groups.

3. That organized local groups will expand their membership to include all elements of the industry within their areas.

4. That unorganized markets will proceed immediately to form local associations.

Dealer representatives heard from the floor covered such major markets as Chicago, Minneapolis, Milwaukee, Detroit, Omaha, Lincoln, Cincinnati, Indianapolis, Des Moines and Kansas City.

Plans now call for local representatives to proceed with the organization of their home territories, with such help as is necessary from Oil-Heat Institute, and prepare to send representatives to a national organizational meeting to be called to elect officers and designate working committees of the National Dealer Council.

National Dealer Meet June 17-18

The first national and organizational meeting of the National Dealer and Distributor Council of OHI will be in Chicago's Blackstone Hotel, June 17 and 18, at which time the Council is expected to be formally set up.

Attendance is urged of all presidents and secretaries of regional and local oilheating groups, other officers and members of such groups, as well as dealer and distributor executives from oilheating markets which are in the process of organization.

The first day's program will include the preliminary organization, the nomination and election of national officers and the formation of committees. On the second day will be reports from committees and an open forum discussion preceding the adoption of a national platform.

O.H.I. of N. E. Holds Second Industry Meeting

IN ITS SECOND industry-wide meeting since its recent organization, the Oil Heat Institute of New England on May 12 at Boston's Hotel Statler heard William E. Callahan discuss tank car movement of fueloil.

Callahan is manager of the tank car section, Car Service Division, Association of American Railroads. He displayed a wide knowledge of tank car movement and outlined the additional job the railroads are prepared to do in daily delivery totals, when certain conditions outside of their control have been improved.

In addition, E. Graham Bates, OPA regional fueloil rationing officer, announced and discussed the new rationing program.

Fred Beckwith is the Institute's executive secretary.

Official OWI Photo by Palmer

From Alaska to Australia, from Iceland to Trinidad, Webster Electric Fuel Units are in this war. Wherever our fighting men go these units go with them to help supply heat, hot water and cooking facilities.

Bread for the far flung construction camps on the famous Alcan Highway was baked in Ranier ovens with Webster Electric Fuel Units. They were standard equipment on the burners which kept the barracks warm in extreme cold. Army kitchens have found burner equipment by Webster Electric always on the job. Pictured here is a typical line-up for chow at an army mobile unit.

Today all our production goes into such important war jobs in the field and in important industrial applications at home. Here their compactness, flexibility and many exclusive features which allow for a wide range of capacities and pressures has made them increasingly valuable.

Webster Electric Service Stations and Representatives are located at strategic points to give the utmost service to industries engaged in the war effort and to home owners whose oil burners are equipped with Webster Electric Fuel Units.

WEBSTER ELECTRIC COMPANY, Racine, Wisconsin, U. S. A., Established 1909. Export Dept.: 100 Varick St., New York City. Cable Address: "ARLAB" New York City.

WEBSTER ELECTRIC SERVICE STATIONS AND SALES REPRESENTATIVES

Ignition Transformers, Fuel Units, and Parts

California, Los Angeles	Garland-Affolter Engr. Corporation	124 W. 4th Street	Sales Representative
California, San Francisco	Garland-Affolter Engr. Corporation	Rialto Building	Sales Representative
Connecticut, West Hartford	Bell Pump Service Company	100 Park Road	Service Station
Illinois, Chicago	Braun Bros. Heating Supply Company	3146 W. Chicago Avenue	Service Station
Illinois, Winnetka	Braun Bros. Heating Supply Company	812 Oak Street	Service Station
Iowa, Des Moines	Delavan Engineering Company	414—12th Street	Sales Representative
Maryland, Baltimore	R. E. Michel Company	1011 Greenmount Avenue	Service Station
Massachusetts, Cambridge	Cronin Supply Company	60 Broadway	Service Station
Massachusetts, Malden	E. L. Kimball Company	25 Lynde Street	Service Station
Massachusetts, Waltham	Cronin Supply Company	157 High Street	Service Station
Massachusetts, Wollaston	W. S. Plummer	109 Lincoln Avenue	Service Station
Michigan, Detroit	Wm. G. Boales Company	6429 Hamilton Avenue	Service Station
Minnesota, St. Paul	Thermal Company, Inc.	2448 University Avenue	Service Station
Missouri, St. Louis	Brass & Copper Sales Company	2817 Laclede Avenue	Service Station
New Jersey, Elizabeth	Certified Fuel Unit Service Company	600 Spring Street	Service Station
New York, Albany	Certified Fuel Unit Service Company	1018 Central Avenue	Service Station
New York, Brooklyn	Eveready Specialties Company	1724 Flatbush Avenue	Service Station
New York, Brooklyn	The Capson Company	106 Rogers Avenue	Service Station
New York, Jamaica	Sid Harvey, Incorporated	138-76 Queen Boulevard	Service Station
New York, Valley Stream	Sid Harvey, Incorporated	104 E. Mineola Avenue	Service Station
Oregon, Portland	Garland-Affolter Engr. Corporation	1233 N. W. 12th Avenue	Sales Representative
Pennsylvania, Philadelphia	Certified Fuel Unit Service Company	3412-14 W. Allegheny Ave.	Service Station
Rhode Island, Providence	Providence Plumbing Supply Company	47 Pine Street	Service Station
Washington, Seattle	Garland-Affolter Engr. Corporation	532 First Avenue South	Sales Representative

Type "T"

BUY BONDS

WEBSTER ELECTRIC

"Where Quality is a Responsibility and Fair Dealing an Obligation"

fuel oil & oil heat

TO THE OIL BURNE

—The man who has kept oil burners operating in spite of heart-breaking handicaps.

Shortage of parts—shortage of manpower—a winter of exceptional severity and continual sudden changes of temperature—he has met and overcome all these obstacles. He has forestalled catastrophe in countless homes by his patience, ingenuity, dogged determination and devotion to his job.

Our hats are off to oil burner servicemen throughout the country. They are rendering a vital service to the nation.

When peace comes again, they deserve their full share in the better world we all hope for.

After Victory, new developments by Detroit Lubricator Company will contribute much to the comfort and health of America through oil heating.

DETROIT LUBRICATOR COMPAN

General Offices: DETROIT, MICHIGAN

Division of American Radiator and "Standard" Sanitary Corporation

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINN

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" Heating and Refrigeration Controls • Engine Safety Controls • Safety
loat Valves and Oil Burner Accessories • Radiator Valves and Balancing
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efrigeration Accessories • Air Filters • Stationary and Locomotive Lubricators

Warm Air Future

Association Director Asks Furnace Manufacturers

By
Geo. Boeddener*

THE FIRST WARM AIR FURNACE was installed 108 years ago in the year 1835 in Worcester, Mass. Since this beginning, warm air heating, both for gravity and forced warm air circulation, has been accepted as the most widely used of all central heating systems.

During the past 25 years, 9,300,000 furnaces have been produced, sold and installed. The figure will, I believe, be a conservative one as compared to forecasts which have been made concerning the use of our products in the period following the peace. Our industry will, I feel sure, broadly increase its service after the war through a desire on the part of home owners to take advantage of the technical advances which have been made in the industry for increased health and comfort standards through a controlled indoor climate.

After World War One this industry received wide acceptance of its products through the sale of hundreds of thousands of pipeless furnaces to replace the use of stoves. We believe that after this war there will be wide acceptance for the improved products of our industry among a large number of the present 16,000,000 users of stove heat. The modernization of existing systems and the necessary replacements of existing furnaces offers a wide additional market. The stove heated home, modernization and the replacement markets represent only a part of our future opportunities. I say a part because, based on all present studies, the new home construction market will be overwhelming.

We have made a projection covering the sale of the furnace products of this industry for the year 194X. In other words, the first year after the peace, but allowing a reasonable period of, say six months, for reconversion of our industry to peacetime production. This projection is based on the percentage of equipment by fuels, shown in the 1941 Bureau of the Census statistics on bookings of gravity and forced warm air heating units. The projection shows that in the year 194X, with a national income of $100,000,000,000 based on terms of 1940 dollars, that 514,000 coal-fired gravity and forced warm air heating units, 270,000 gravity and forced warm air gas-fired units, and 116,000 gravity and forced warm air oil-fired units, or a total of coal, gas and oil-fired units of 900,000 will be sold. If this estimate is attained it will indicate an increase of 50% over the best year this industry ever enjoyed which was 1941 with sales of approximately 600,000 units.

To achieve the goal which we think is obtainable, it will be necessary to expand our research program in cooperation with the University of Illinois. We plan to provide a broad educational program for manufacturers, jobbers, dealers and also to develop a text book on warm air heating which can be used in various schools, one which is written in such simplified form that it will be unnecessary to hold a college degree to properly conduct the business of the industry in its various branches.

In the immediate post war market I believe our industry will continue to provide, in substantial volume, the conventional types of warm air heating units which were available prior to the time we entered the war, in addition to those new products which have been and which are now being developed in the laboratories of quite a number of manufacturers of the industry. The tendency will be toward greater compactness in design and higher efficiencies. Raw material costs will, to some extent, dictate the weight and type of material to be used and the design.

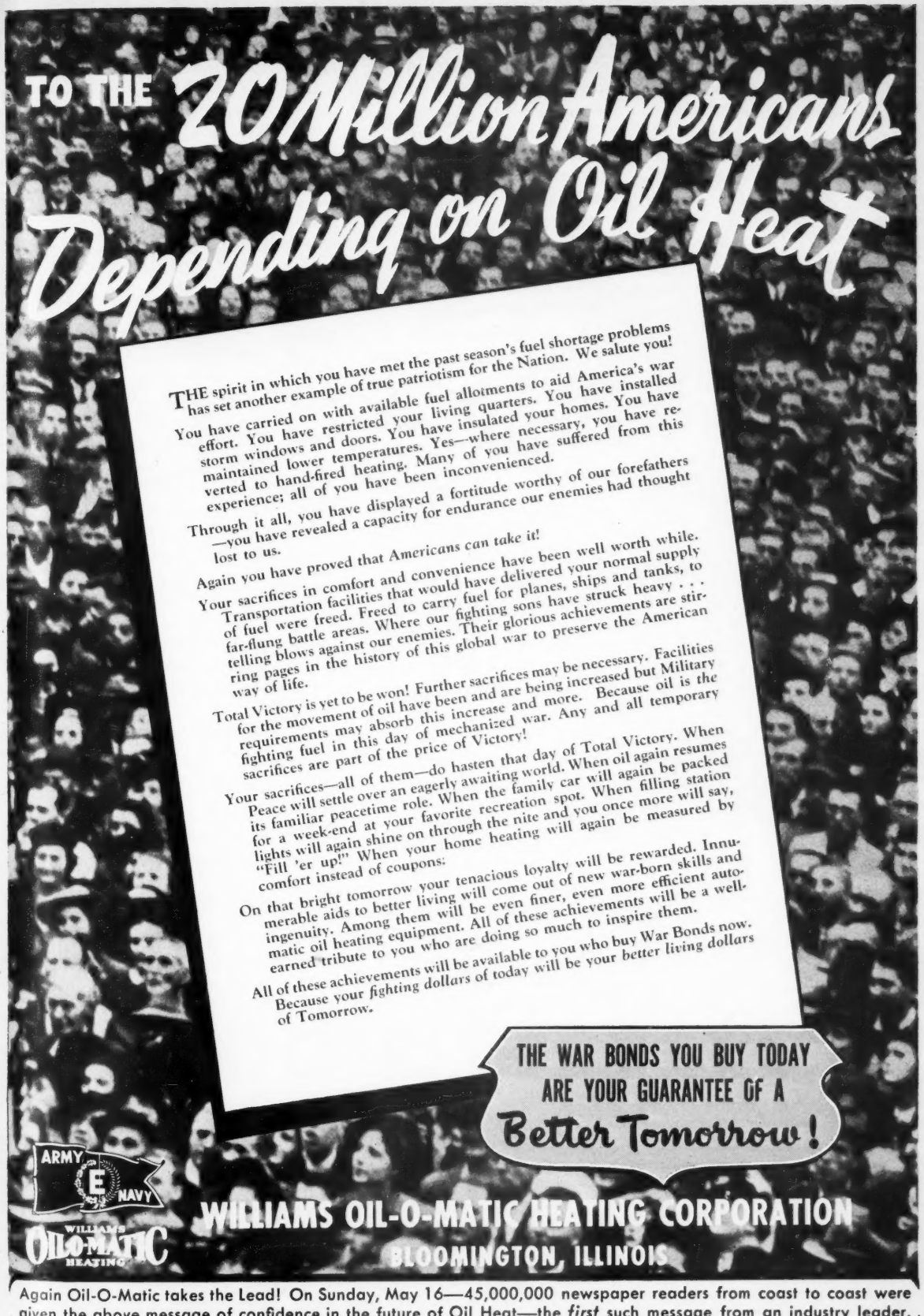
Ten Billion New Building

The role of building construction in the post war era represents the greatest opportunity for post war employment and investment. Building for many years has represented in excess of 7% of our national income and at the bottom of the last severe depression it represented 8%. Such percentages cannot be ignored if the national income in the post war era is held at $100,000,000,000 based on 1940 dollars. Present thinking in the building construction industry is that building construction must account for at least ten billion dollars of national income in the post war era years. Such amount would be divided approximately 50% for residential construction and 50% for non-residential covering industrial, commercial, public works and other classifications.

Estimates of new home construction after the war range as high as 1,500,000 units a year. According to some reports, much of this new home construction will be prefabricated. Prefabricated in the factory where the complete home is trucked to the building site and prefabricated on the job by general contractors who have learned new low cost methods in home building because of heavy demands for war housing. It seems to us that much of the competition in the low cost home building field will be between the prefabricated house manufacturer, where the house is built in the factory, and the prefabricated house contractor on the job.

Prefabrication of low cost homes is predicated on large volume purchases at low cost of the materials and low cost la-

*Managing Director, National Warm Air Heating & Air Conditioning Assn.


TO THE 20 Million Americans Depending on Oil Heat
THE spirit in which you have met the past season's fuel shortage problems has set another example of true patriotism for the Nation. We salute you!
You have carried on with available fuel allotments to aid America's war effort. You have restricted your living quarters. You have installed storm windows and doors. You have insulated your homes. You have maintained lower temperatures. Yes—where necessary, you have reverted to hand-fired heating. Many of you have suffered from this experience; all of you have been inconvenienced.
Through it all, you have displayed a fortitude worthy of our forefathers —you have revealed a capacity for endurance our enemies had thought lost to us.
Again you have proved that Americans can take it!
Your sacrifices in comfort and convenience have been well worth while. Transportation facilities that would have delivered your normal supply of fuel were freed. Freed to carry fuel for planes, ships and tanks, to far-flung battle areas. Where our fighting sons have struck heavy . . . telling blows against our enemies. Their glorious achievements are stirring pages in the history of this global war to preserve the American way of life.
Total Victory is yet to be won! Further sacrifices may be necessary. Facilities for the movement of oil have been and are being increased but Military requirements may absorb this increase and more. Because oil is the fighting fuel in this day of mechanized war. Any and all temporary sacrifices are part of the price of Victory!
Your sacrifices—all of them—do hasten that day of Total Victory. When Peace will settle over an eagerly awaiting world. When oil again resumes its familiar peacetime role. When the family car will again be packed for a week-end at your favorite recreation spot. When filling station lights will again shine on through the nite and you once more will say, "Fill 'er up!" When your home heating will again be measured by comfort instead of coupons.
On that bright tomorrow your tenacious loyalty will be rewarded. Innumerable aids to better living will come out of new war-born skills and ingenuity. Among them will be even finer, even more efficient automatic oil heating equipment. All of these achievements will be a well-earned tribute to you who are doing so much to inspire them.
All of these achievements will be available to you who buy War Bonds now. Because your fighting dollars of today will be your better living dollars of Tomorrow.
THE WAR BONDS YOU BUY TODAY ARE YOUR GUARANTEE OF A Better Tomorrow!
ARMY E NAVY
WILLIAMS OIL-O-MATIC HEATING
WILLIAMS OIL-O-MATIC HEATING CORPORATION
BLOOMINGTON, ILLINOIS

Again Oil-O-Matic takes the Lead! On Sunday, May 16—45,000,000 newspaper readers from coast to coast were given the above message of confidence in the future of Oil Heat—the *first* such message from an industry leader.

bor due to belt line production. In other words, the light construction industry will, in part, adopt similar production methods used by the producers of automobiles, automatic refrigerators and hundreds of other items. For a period of about ten years before the war, various attempts had been made to prefabricate low cost homes, but none to our knowledge achieved substantial production.

Experience has shown that many large industries have been subsidized by the government. Take the railroads. Years ago they received extensive government land grants. The automobile industry was subsidized by the building of tens of thousands of miles of hard roads through national and state government subsidies. Now comes the low cost home. Because

of war necessity the government not only encouraged but demanded low cost homes through public and private enterprise. The government has purchased tens of thousands of prefabricated homes and this, in a great sense, is a subsidy. Will this subsidy portend of a large market for prefabricated homes?

Home prefabricators are now demanding a mechanical heart for the homes they are now building and planning to build after the war. A heart which will include ready for installation all of the mechanical apparatus used in a home including heating, plumbing and electrical. Many designers are spending their time and effort trying to put together a mechanical heart which would probably come completely assembled in a space say four by ten or twelve feet, and which would be moved into the house complete, ready for local heating, plumbing and electrical connections. I know of one large building material manufacturer who has a standing offer for 25,000 of these units if and when developed.

We have had an opportunity to review the comments of a number of manufacturers in the warm air heating industry in connection with the kinds of heating plants we are going to sell after the war and the trends with respect to housing. Below we give the composite opinions of a number of manufacturers. These are opinions only, but they should throw some light on developments for the post war market.

Equipment Trend

1. What kind of heating plants are going to sell after the war?

The consensus seems to be that the sale of conventional units used before the war will continue in substantial volume after the war. Also that there will be a heavier demand for automatic systems and particularly forced warm air. That because of the wider use of insulation in old homes and the almost universal acceptance of insulation for all new homes, and because space will be at a premium, particularly in the small basementless home, heating units and the distributing system will have to be more compact. The fuel to be used will be that which is popular in the community.

2. What will be the trend in housing?

The opinion seems to be that houses will be smaller, much better mechanically equipped than in the past, and that many of them will be built out in what we used to call the country, where super highways and fast economical cars will simplify the commuting problems.

3. Will the public resume the building of the individualist houses?

The general opinion is yes. The home is the most highly prized single possession a family can have. Standardized low cost houses are a thing of necessity. Homes will always give expression to an individual's desires, and those who are in a financial position will find expression of these desires in tailor made homes.

4. How important will prefabricated house construction be?

The impression seems to be that the prefabricated house will be an important item but there is a question as to the volume it will reach. Many parts and features of prefabrication will be used in home construction, reducing the man hours or total labor used on the job.

5. What changes do you anticipate will be advocated or desirable in warm air heating equipment to meet post war trends?

Greater compactness of units, better design, more fool-proof and better control of forced warm air equipment so as to produce a smoother regulation of room temperature. Something should be done with the controls and also with the location of warm air and cold air outlets so as to produce warm floors and perfectly satisfactory heating conditions in basementless homes.

6. Installations and approval.

Installations will be much improved because of greater interest on the part of dealers and installers and because of demands of the home producer and the home owner. Ultimately, we can look forward to installations, including equipment bearing a nationally accepted standard seal of approval. *Controlled Indoor Climate* for greater comfort and health will not only be an objective but will be demanded. A greatly improved service in this industry, compared to past standards will bring greater profit opportunities to home owners through better comfort, health and economy of operation as well as a higher level of profit for the entire industry.

Plastic Pipe and Tube Used in Government Houses

GOVERNMENT AUTHORITIES have selected the new plastic saran tubing for plumbing in 15,000 dwelling units to be built this spring and summer by the Federal Public Housing Administration, it was recently disclosed.

The project represents the largest single excursion of plastics into this particular field so far announced, and lends substance to prophecies that the potential use of plastics where the basic metals formerly served exclusively is virtually limitless.

Saran is a resin-based plastic recently developed by The Dow Chemical Company and already licensed to a dozen processors.

The fact of saran's being a thermoplastic centers additional trade interest on the decision of federal authorities to circulate hot as well as cold water through plas-

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Precision and Accuracy

Experience is a priceless ingredient that is welded into products and production. The years of experience we have gained through rigid adherence to the one standard of exacting precision in the building of thousands of Brodie Meters becomes ingrained into the items we are producing for our nation and its fighting forces. It can be found in the Hydraulic pumps we produce for light and heavy bombers. It travels in the high explosive shells, fired at enemy tanks, planes and forces. It shows up in the dependably accurate performance of Brodie Meters installed on tank trucks that keep America's motorized equipment rolling both here and on the battle fronts of the world.

BRODIE METERS

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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

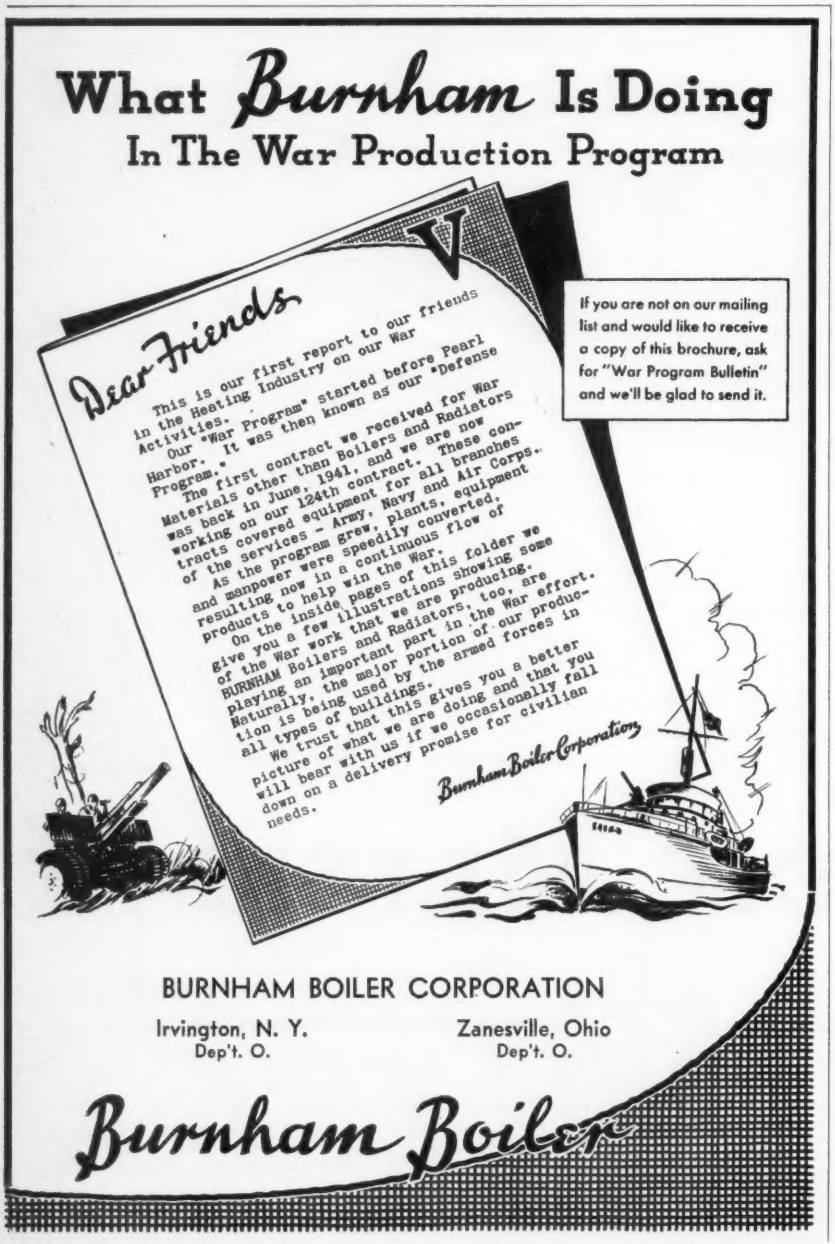
fuel oil & oil heat

tic pipe at an experimental number of the new dwellings. The cold water circuits in all 15,000 dwellings will be through saran tubing.

The piping of hot water through the thermoplastic saran will be tested in widely separated sections of the country to gain the experience of extremes in climatic and water conditions.

That results of this test hold tremendous possibilities for the plastics industry may be interpreted from the government report to the FPHA suggesting the use of saran. The report states: "The facilities indicated by The Dow Chemical Company . . . would be sufficient capacity for the requirements on 5,000 dwellings a month, for a period of three months, or a total of 15,000 dwelling units as a preliminary program."

Utilization of saran in the housing projects will, according to federal estimates, free for more immediate war production the equivalent of 1,000 tons of critical steel and other metals for 120,000 fittings. Both fittings and tubing are of saran which can be flared with the conventional standard tools.


What Burnham Is Doing
In The War Production Program
Dear Friends
This is our first report to our friends in the Heating Industry on our War Activities.
Our "War Program" started before Pearl Harbor. It was then known as our "Defense Program."
The first contract we received for War Materials other than Boilers and Radiators was back in June, 1941, and we are now working on our 124th contract. These contracts covered equipment for all branches of the services – Army, Navy and Air Corps.
As the program grew, plants, equipment and manpower were speedily converted, resulting now in a continuous flow of products to help win the War.
On the inside pages of this folder we give you a few illustrations showing some of the War work that we are producing. BURNHAM Boilers and Radiators, too, are playing an important part in the War effort. Naturally, the major portion of our production is being used by the armed forces in all types of buildings.
We trust that this gives you a better picture of what we are doing and that you will bear with us if we occasionally fall down on a delivery promise for civilian needs.
If you are not on our mailing list and would like to receive a copy of this brochure, ask for "War Program Bulletin" and we'll be glad to send it.
Burnham Boiler Corporation
BURNHAM BOILER CORPORATION
Irvington, N. Y.
Dep't. O.
Zanesville, Ohio
Dep't. O.
Burnham Boilers

Hoffman Fuel Gets OPA Suspension Order

MICHAEL HOFFMAN FUEL CO., Bridge Conn., described as the state's largest re tail fueloil distributor, was served a one month suspension order May 18 by the Connecticut Office of Price Administration for violating rationing regulations during the past winter.

The suspension of the firm's right to "transfer or deliver or otherwise trade or deal in fueloil" was effective May 21. It was the second penalty imposed on the firm within a week for violating federal regulations. Federal District Court Judge J. Joseph Smith had earlier fined the company $1,000 for violating the OPA emergency delivery order, which limited emergency drops to any customer. The defendants in this case plead nolo contendere.

The principal charges sustained were that the company did not observe coupon validity dates and that it delivered oil to some customers without taking coupons.

OPA also won a suspension order against a consumer, Joseph Williams, of Cedar Grove, N. J., owner of seven houses, on which he was convicted of falsely certifying both the floor area and the past consumption of the houses. He cannot receive more oil for 18 months for any of the houses.

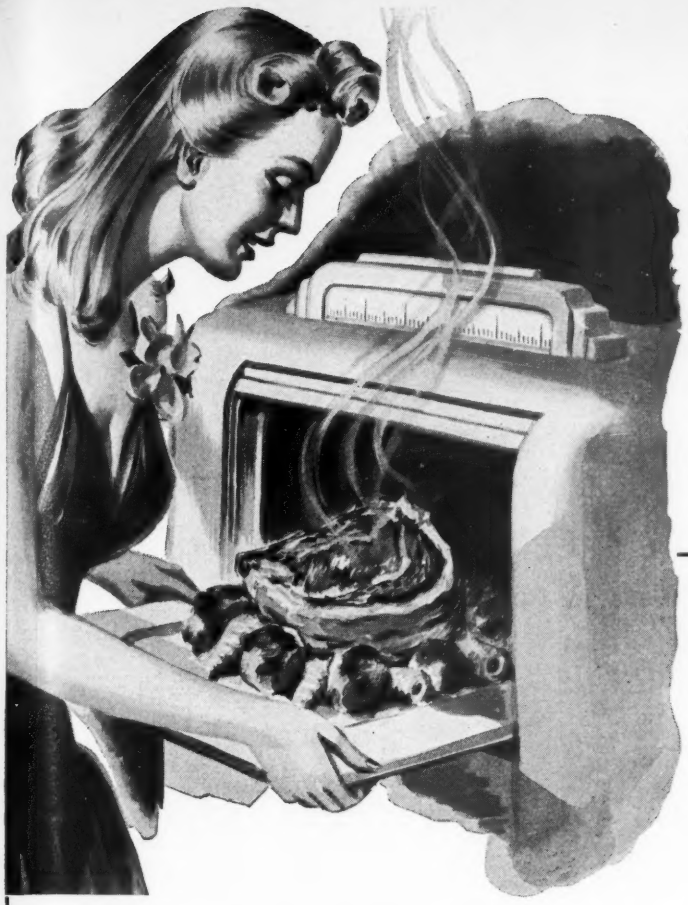
◈

Truck Sales Only Six Percent of Norma

DURING THE PAST 15 MONTHS a total of 630,000 potential civilian truck sales have accumulated for peacetime business, according to F. F. Staniford, Sales Manager of Mack Trucks, Inc.

Basing his figures on an average of 4[illegible] 500 truck sales per month during the years 1937 to 1941 inclusive, Mr. Staniford subtracted the civilian truck sales made during 1942 to arrive at his total. Roughly six out of every 100 normal truck requests have been met in the past year, and this ratio is expected to hold for the duration of the war.

This means, according to the Mack Sales Manager's figures that at the end of 1943 a backlog of well over a million potential truck sales will have accumulated. Every additional month of war adds 4[illegible] 000 to this figure.



There's a GREAT DAY COMING!

ELECTRONIC COOKING will do in minutes what now takes hours

Imagine putting your roast in the oven as you sit down to dinner . . . and finding it ready to serve by the time you've finished your soup! Yet scientists predict that such speed . . . and economy . . . and convenience are only a few of the many benefits *electronic* cooking can bring to post-war homes.

Because this method generates heat from the *inside* at the same rate as from the outside, food can be cooked through with no danger of burning, no wasteful shrinkage, no loss of valuable juices. Weight and thickness make no difference, either . . . 100 lbs. can be cooked as fast as 1 lb. Instead of burned hands from hot utensils, electronic cooking concentrates the heat in the food being cooked—the utensil remains comparatively cool.

Delco Appliance salutes the scientists whose electronic applications promise so much for future home life. Our own use of electronics is now confined to war production, because *"Victory Is Our Business"* . . . but with peace, it will help us build new and finer Delco Appliances that you can sell to every home owner.

Delco Appliances include Automatic Delco-Heat (oil-coal-gas), Delco Water Systems, Delco-Light Power Plants and Delco-Light Batteries.

DELCO APPLIANCE

ROCHESTER, N. Y.

DIVISION of GENERAL MOTORS

fueloil & oil heat

Storage Tank Oil Level Table

This table includes sizes of older tanks as well as recent ones, and is published through courtesy of Timken-Silent Automatic, Detroit.

To determine the exact number of gallons of fuel oil in your storage tank at any given time, first measure the tank and then check (√) the column corresponding with the size and capacity of your tank. Next, insert a yardstick or folding rule into the tank until it strikes bottom. After determining the depth of the oil in inches, trace down the column at the extreme left headed "Oil Depth in Inches" to the figure corresponding with the depth of the oil in your tank, and then trace right to the column you have previously checked. The figure thus obtained is the number of gallons of oil in your tank at that time.

If desired, the gallonage figures applying to your size and capacity of tank may be transferred to the yardstick or rule to give a "direct reading" and thus save time when checking the oil level on future occasions.

OIL DEPTH IN INCHES	( ) 220 Gal. Tank 56" x 42½" x 27" deep	( ) 220 Gal. Tank 56" x 26" x 42" deep	( ) 220 Gal. Tank 72" x 30" diameter	( ) 275 Gal. Tank 60" x 44" x 27" deep	( ) 275 Gal. Tank 60" x 27" x 44" deep	( ) 275 Gal. Tank 73" x 44" x 22" deep	( ) 275 Gal. Tank 73" x 22" x 44" deep	( ) 275 Gal. Tank 67" x 42" x 26" deep	( ) 275 Gal. Tank 67" x 26" x 42" deep	( ) 550 Gal. Tank 5'-7½" x 49" diameter	( ) 550 Gal. Tank 7'-8" x 42" diameter	( ) 1000 Gal. Tank 6' x 64" diameter	( ) 1000 Gal. Tank 10'-8" x 48" diameter	( ) 1000 Gal. Tank 11'-10" x 45½" diam.	( ) 1080 Gal. Tank 11'-1" x 48" diameter
	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons	Gallons
1	5	2	3	6	2	9	2	7	2	3	3	3	5	5	5
2	12	4	7	14	5	19	5	14	5	8	10	9	14	15	15
3	19	8	12	23	9	31	10	24	10	14	17	17	25	28	27
4	27	12	18	32	14	43	15	34	15	21	27	26	39	43	42
5	35	17	25	40	19	55	20	44	21	30	37	36	55	60	58
6	44	21	32	51	25	68	27	55	27	39	48	47	72	78	77
7	53	27	40	62	31	82	33	66	33	48	60	60	90	97	96
8	62	32	48	73	37	96	40	77	40	58	73	72	110	118	117
9	72	38	56	84	44	109	46	89	47	69	86	86	130	140	139
10	82	44	65	96	50	124	54	101	55	81	100	100	151	163	162
11	92	50	74	106	58	138	61	113	62	93	115	114	173	187	186
12	100	56	83	118	65	151	68	125	69	105	130	130	196	212	211
13	111	62	92	129	72	166	75	137	77	117	145	146	219	237	236
14	121	68	101	146	79	179	82	150	85	130	161	162	243	262	262
15	129	74	110	157	86	193	89	162	92	143	176	179	267	288	289
16	140	80	119	169	93	207	96	173	100	156	192	196	292	315	316
17	149	86	129	179	100	220	103	186	107	169	209	213	317	342	344
18	159	92	138	191	107	232	110	198	115	183	225	231	348	369	372
19	168	98	147	202	114	244	117	209	123	197	242	249	369	396	400
20	177	104	156	213	122	256	124	220	130	211	258	268	384	424	429
21	186	110	164	224	129	264	131	230	138	225	275	286	421	452	458
22	194	116	173	235	136	275	138	241	145	239	292	305	447	480	487
23	202	122	181	245	143		144	251	153	253	308	324	474	508	516
24	210	128	188	253	150		151	260	161	268	325	343	501	536	546
25	217	134	196	261	157		158	268	168	283	341	362	528	564	576
26	222	140	202	267	164		165	275	276	298	358	382	555	592	605
27		146	208	275	171		172		183	312	374	402	581	620	634
28		152	214		178		179		191	326	389	422	608	647	663
29		158	218		186		186		198	340	405	442	633	674	692
30		164	220		193		193		206	354	420	462	659	701	720
31		170			200		200		214	368	435	482	685	728	748
32		176			207		207		221	382	450	502	711	754	776
33		183			214		214		228	395	464	522	735	779	803
34		187			221		221		236	408	477	542	759	803	830
35		193			228		229		243	421	490	562	783	827	856
36		199			234		235		250	434	502	582	806	850	881
37		203			240		242		256	446	513	602	829	873	906
38		208			246		248		260	458	523	622	851	894	930
39		212			252		255		265	470	533	642	872	914	953
40		216			258		260		269	482	540	661	895	933	975
41		218			263		265		273	493	547	680	912	950	996
42		220			268		270		275	503	550	699	930	966	1015
43					272		273			512		718	947	979	1034
44					275		275			521		736	963	990	1050
45										530		754	977	998	1067
46										537		772	988	1000	1077
47										543		790	997		1087
48										548		807	1002		1092
49										551		824			
50												841			
51												857			
52												873			
53												889			
54												903			
55												917			
56												931			
57												943			
58												956			
59												967			
60												977			

In recognition of their "patriotism and great work," Emerson-Electric workers were presented with the Army-Navy "E" Award.
Now...
Teamed for Victory
Today—and as long as the war lasts—Emerson-Electric's entire output of precision-built electric motors is teamed with United Nations' aircraft, battling on the air fronts of the world.
Teamed for Service
There are scores of standard uses for high quality, standard motors. Emerson supplies them every day—has for years.
But with the rapid development of new motor-driven devices and appliances there is a never-ending demand for individual engineering service—for specially designed motors to fit specific needs. These needs frequently call for a mere hair's breadth difference—a difference, however, that makes a champion instead of a runner-up.
It is in this field of individual engineering service that Emerson has won its leadership in the motor industry. Emerson has won its leadership in the motor industry because with ceaseless research, specially designed testing equipment, and veteran, advanced-thinking engineers, Emerson has become capable of supplying the difference between standard and individually designed motors.
Find out how Emerson's individual engineering service can solve your motor problems. Write for Bulletin TODAY.
SO THAT THE WORLD MAY READ
EMERSON MOTORS
3 HP and smaller—Single-phase—Polyphase
THE EMERSON ELECTRIC MFG. CO.
ST. LOUIS
NEW YORK
LEADERS IN THE FAN AND MOTOR INDUSTRY
PAGES FROM AVIATION'S HISTORY
MISSION ACCOMPLISHED
Hit true—hit hard—get away fast! That's all there is to a successful bombing expedition. But—it takes split-second co-ordination of a finely trained crew and precision-built equipment, to produce such results. Emerson-Electric Aircraft Motors that drive gun turrets, operate fuel pumps, tab controls, and do many other vital jobs—instantly and unfailingly—are helping United Nations Flyers all over the fighting world, return and report..."Mission Accomplished!"
THE EMERSON ELECTRIC MANUFACTURING CO.
ST. LOUIS... Branches: New York • Detroit • Chicago • Los Angeles • Davenport
LIGHTWEIGHT, COMPACT, POWERFUL—Emerson-Electric Aircraft Motors are made for gun-turret drives, hydraulic units, fuel pumps, tab controls, winterizing, communicating systems, also with built-in gear and limit stop.
EMERSON ELECTRIC
MOTORS • FANS • APPLIANCES • A. C. ARC WELDERS

A PAGE FROM A FORMER YEAR
In times of peace, Emerson-Electric motors were teamed perfectly with scores of nationally-known products for civilian use... as they will be again when this war is won.

Electric Aircraft Motors for gun-turret drives, hydraulic units, cowal flap controls and RADAR control equipment, are just a few of the many war products now flowing from Emerson-Electric production lines. Out of the rich experience thus gained have been developed many design improvements, increased efficiencies and greater operating economies—factors vitally important in the plans of manufacturers who will supply the motor-operated appliances and equipment of the post-victory world.

THE EMERSON ELECTRIC MFG. CO.
SAINT LOUIS... *Branches:* New York • Detroit
Chicago • Los Angeles • Davenport

A page from Emerson-Electric's current aircraft motor advertising

EMERSON ELECTRIC

MOTORS • FANS • APPLIANCES • A. C. ARC WELDERS

fuel oil & oil heat

Warm Air Men Hear All-Industry Plans

PLANS FOR THE FORMATION of an overall body to promote the entire heating industry were unfolded to the Mid-Year convention of the National Warm Air Heating and Air Conditioning Association at Chicago, May 26, when Paul B. Zimmerman, vice-president of Airtemp Div., Chrysler Corp., and chairman of the association's Publicity and Merchandising Committee, outlined work already done toward launching the "Indoor Climate Institute." It is proposed that this institute undertake the task of educating the public to the need for better heating and air conditioning in homes and public buildings, irrespective of the type of heating used or the fuel to be burned.

Mr. Zimmerman told of other campaigns to sell better living, and drew a parallel between the present proposal and that of the IES (Better Light, Better Sight), the Food Preservation Council (Below Fifty Degrees Lies Safety), Red Seal wiring, and the Modern Kitchen Bureau, all of which were successful in selling the industry's service to the public, and improving the standards within the business. Indoor Climate Institute would be organized as a non-profit corporation, supported by all elements of the heating business. Present plans have been drawn by a steering committee composed of C. E. Lewis (Delco); C. T. Berg (Iron Fireman); L. N. Hunter (National Radiator); J. M. McClintock (Illinois Iron & Bolt); C. D. Lyford (Minneapolis-Honeywell); J. R. Scott (Mueller Furnace); J. W. Grover (Surface Combustion); A. T. Atwell (Quaker); and W. H. Knowlton (Airtemp) as secretary, with Mr. Zimmerman as chairman. The plans are now to be presented to the various elements of the heating industry, and their associations, for acceptance.

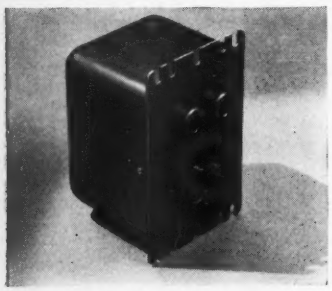
The program contemplates improved industry standards for heating, better dealer and public education, and an identifying seal for products and installations that meet the standards for construction and performance which each branch of the industry may adopt. Field men would help to organize local bureaus to serve as contacts with the public.

Prof. S. Konzo of the University of Illinois, told the convention of work that had been carried on by the Research Committee during the past winter to find the effect of closing off rooms and using fireplaces as means of fuel-saving. This work showed relatively small savings in fuel compared to the area of the rooms unheated. In some cases no saving was apparent, due to the higher stack temperatures resulting from overheating when load was removed from the heating plant.

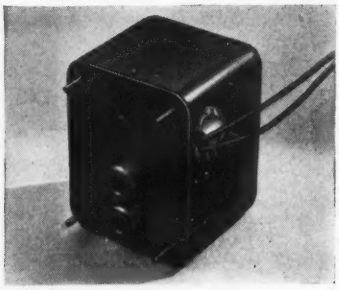
Fireplaces effected savings in fuel only when the thermostat was so located that the fireplace heat reached it, and served to satisfy it at the expense of the rest of the house. When the thermostat was not directly affected by the fireplace, some fuel loss was experienced, due to the loss of room air up the fireplace flue. Prof. Konzo estimated that fireplaces are about 10% efficient.

Fred Sedgwick, chairman of the Research Advisory Committee, reported that study is being considered on small home heating of the type that is likely to be in greatest demand after the war, but offered no comfort to those who are demanding large capacities from units occupying very limited space. The committee also will work toward better fuel burning in units requiring low oilfiring rates, and a general increase in fuel efficiency of all sizes and types of furnaces.

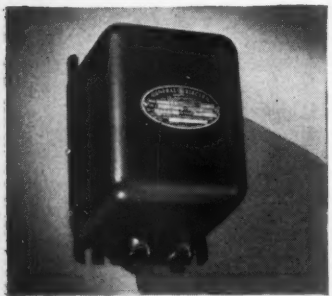
G-E IGNITION TRANSFORMERS



Universal mounting, h-v detachable plug terminals in bottom; l-v knockout in bottom



Studs for concealed mounting, h-v detachable plug terminals in bottom; l-v BX connector



Universal mounting, h-v stud terminals in end; l-v knockout in bottom

Universal mounting, h-v conduit, detachable plug terminals in end; l-v knockout in top

Provide an Unfailing High-voltage Arc for Oil Burners

Designed to give positive ignition under such extreme conditions as:

- Line voltage as low as 70 per cent of normal
- Heavy oil at freezing temperatures (as low as −10 C)
- Cold spark point
- Oil film on spark point

And they are exceptionally effective in reducing radio interference

See your nearest G-E office for replacement parts. They will help you to service your customers and to keep their oil burners at top operating efficiency. *General Electric Company, Schenectady, N. Y.*

GENERAL ELECTRIC

403-49-5206

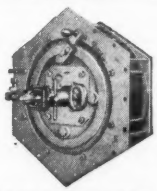
No. 2 in a series of tributes to America's War Industries

MAKING MINCE-MEAT OUT OF PANZERS!

They jab and stab, they slug and smash. On and on they roll . . . devouring Nazi panzers as they go . . . leaving in their wakes the shattered, burned-out carcasses of these mechanical beasts. Lights, mediums, heavies . . . Lees, Shermans, Grants . . . they outspeed, out-shoot, out-maneuver, out-last anything the frantic "supermen" can create. These are the tanks that American industry builds.

In quality, the world has never seen their equal. In quantity, this vital tool of war is coming off our production lines like pennies out of a mint. For both, the civilized world can thank American industry . . . its genius for producing the most of the best.

And what this genius is doing for tanks, it is also doing for planes, guns, ships, ammunition . . . every phase of our war production. American industrial might . . . all its muscle, all its skill, all its determination . . . is all-out for the blood of the Axis!

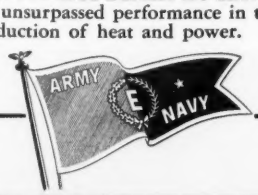


IN PLANTS OF ALL TYPES

TODD BURNERS

ARE WORKING FOR VICTORY

Wherever trouble-free, dependable combustion of liquid and gaseous fuels is a necessity . . . in war plants, in countless merchant and fighting ships . . . Todd Burners are delivering unsurpassed performance in the production of heat and power.



TODD SHIPYARDS CORPORATION

TODD COMBUSTION DIVISION

601 West 26th Street, New York City

NEW YORK · MOBILE · NEW ORLEANS · GALVESTON
SEATTLE · BUENOS AIRES · LONDON

TODD BURNERS ★ ★ ON THE FIRING LINE OF AMERICA'S WAR PRODUCTION FRONT

fuelol = oil heat

OHI Post-War Committee Meets

MEMBERS OF THE ADVISORY and Post-war Planning Committee of Oil-Heat Institute of America held their first meeting in New York, May 10, and agreed on a program that is to be developed through subcommittees as fast as the data can be collected and compiled. Nine committee members, two alternates and six invited guests heard Chairman W. A. Matheson outline the problems to be solved, pointing out that every company is faced with the necessity of getting partial answers for themselves, or cooperating in a group to get more complete information by dividing the work among members qualified to do particular parts of the whole job.

C. E. Lewis, president of OHI, outlined institute activities that have paved the way for future planning, and offered full support to the committee in its investigations.

Seven subcommittees were agreed on to cover the major aspects of the program. Membership on these committees has not yet been announced, but the subcommittees will divide the work as follows:

Subcommittee on Oil Supply to gather information on the availability of fueloil, and the prospects for contiued petroleum discovery, production, refiining and transportation in quantities sufficient to be commercially significant to the oilheating industry. Prime duty of this committee is to investigate the long-term supply situation, rather than the effect of wartime conditions on immediate fueloil supply.

Subcommittee to Work with Oil Refiners and Marketers in order to coordinate the industry's efforts with those of the petroleum industry.

Subcommittee to Work with Boiler and Furnace Manufacturers to assist in planning and design of heating equipment that can be fired with oil for high efficiency.

Subcommittee on the Overall Postwar Market to investigate the probable general market for oilheating, including such subjects as housing, product design, and possible general state of market activity.

Subcommittee on Finance to suggest ways and means of raising such money as may be necessary to carry on the work of the committee.

Subcommittee on Engineering cooperating with the Engineering Committee of OHI to develop postwar standards for materials and equipment construction and performance.

Subcommittee to Work with the Committee on Economic Development in order that the oilheating postwar committee may be fully informed and have the advantage of the work done by the all-inclusive CED, covering all markets and all products.

The Advisory & Postwar Planning Committee is headed by W. A. Matheson, Chairman (Oil-O-Matic). Members are: W. F. Brannan (Anchor Post), Hugh Courteol (Mercoid), Alexis Doter (Torrington), E. A. Halbleib (Delco), W. A. Kemp (Sundstrand Machine), S. A. Loeb (Webster), J. K. Luthe (Perfex), J. H. O'Brien (Petro), Albert Penn (Penn), J. P. Rainbault (General Electric), W. F. Rockwell (Timken), R. M. Sherman (Silent Glow), Harold W. Sweatt (Minneapolis-Honeywell), G. B. Tuthill (Tuthill Pump).

Hot bath and shaving water for the Army and Navy

Uncle Sam buys **AQULUX WATER HEATERS**

AQULUX
Heavy Duty
WATER HEATERS

Hot water builds military morale. Uncle Sam is supplying it as generously as possible at American camps and posts throughout the world.

It is a matter of pride to us that Johnson-built Aqulux Water Heaters have been chosen for so many of these government installations.

The exceptional performance and fuel-economy of Aqulux Heaters was a determining factor in their selection. Government procurement officers were guided by the *80% Efficiency Rating, the rapid recovery* and the *low operating costs* we have achieved in these unjacketed, uninsulated, ungalvanized wartime models.

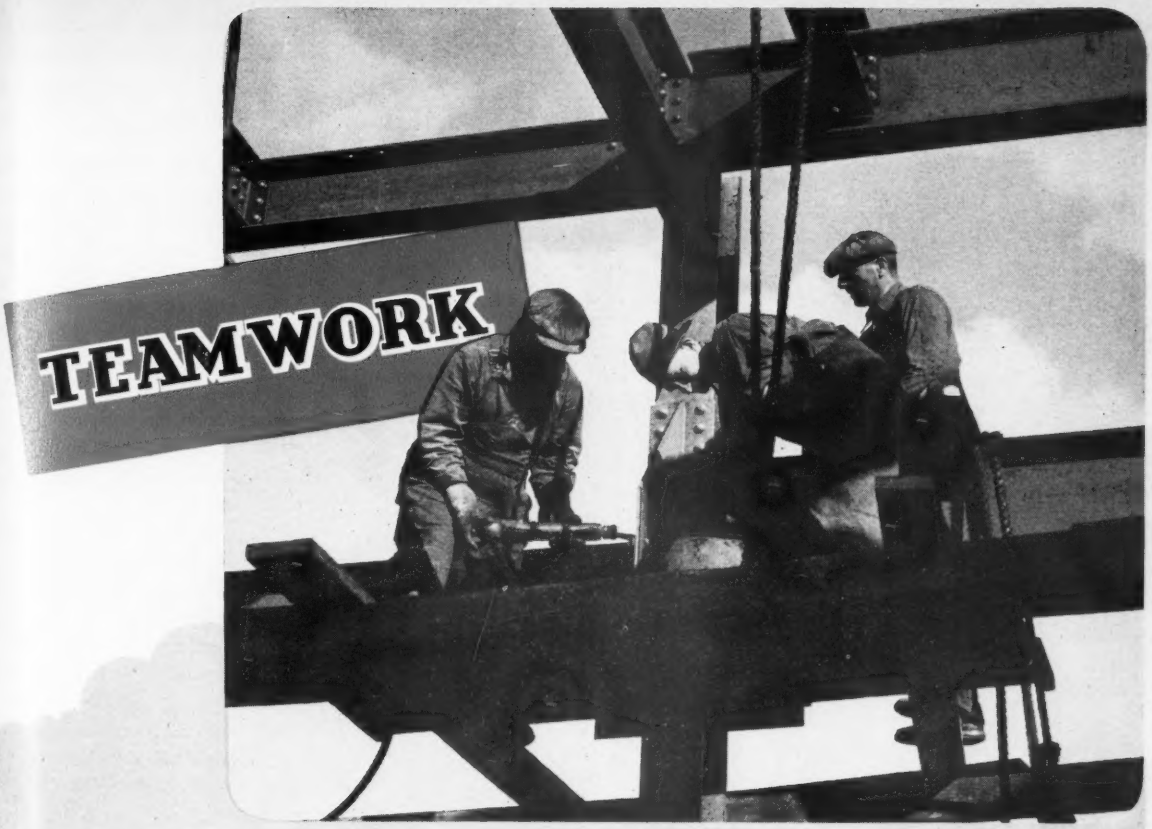
Though virtually all of our capacity is being devoted to these government orders, we are endeavoring whenever possible, to take care of the needs of essential private industries.

If you have a water-heating or oil-burner problem, we will gladly help you with all the manufacturing facilities and engineering experience at our disposal.

S. T. Johnson Co., 940 Arlington Ave., Oakland, Calif., and 401 No. Broad St., Philadelphia, Pa.

S. T. JOHNSON CO.

40 years of engineering and building fine Oil Burning Equipment



Does Even the Biggest Job Better

The biggest job ever tackled by American industry is well on the way to successful completion. In production for war, teamwork played a most important part—the kind of teamwork that enabled three or four makers of dissimilar products to get together to produce new, vitally important equipment.

When you're handling Perfex-controlled heating equipment, you are part of a team whose other two members do all they can to make your job easier. Teamwork between Perfex engineers and equipment manufacturer's designers always has done and always will do a better job of fitting controls to equipment. Installation of Perfex-built controls is consequently made easier and simpler for the team's third member, the dealer, when he takes over. And this team plays in *uniform,* for the controls carry the same name as the rest of the installation.

Our industry still has a big job ahead of it. You'll do your part better with the help of this kind of teamwork.

PERFEX CORPORATION

500 W. Oklahoma Avenue, Milwaukee, Wisconsin

Developments of the Month in Oil Supply and Price

In spite of record breaking Eastbound shipments by rail* during May, the supply of petroleum products available for civilian consumption in the Atlantic area dropped until at mid-month it stood at 25% or normal, then improved only slightly in later weeks. The enlarged offshore movement continued to bedevil supply and distribution committees, although the extremely high withdrawal rate is not expected to continue indefinitely.

The stringency was brought home to the public in the order banning pleasure driving, this time with teeth in it. Where the Petroleum Administration had allocated for May 356,000 barrels a day of gasoline for District 1, consumption was running badly out of bounds because coupon issuance was higher, so the only quick way to correct it was the pleasure driving prohibition. Near-vacant highways indicate it is working.

The pinch is little felt in fueloil because demand is down, but if the industry is to get full benefit from the Summer fill-up planned under the new rationing program, the supplies to make this possible must arrive during June.

It is too early to know how much damage to the Eastern stock position will result from the break in the "big-inch" line on May 17, caused by a severe flood in the Arkansas River. The line's capacity of 300,000 barrels a day was temporarily lost, but W. Alton Jones, president of War Emergency Pipelines, Inc., the line's operator, started immediately to provide an emergency loop to carry the flow across the Rock Island Railroad bridge at Little Rock, using borrowed pipe from the new 20-inch line, now building. Oil was flowing through the emergency loop within seven days, though at a somewhat less than capacity rate.

When the big line broke, 9,000 empty tank cars were heading into Norris City, Ill., the line's present terminal, and had to be diverted to Midwest and Southwest refineries for loading.

Meanwhile, the 20-inch line, the "Little Big Inch" has progressed to the pipe laying stage at several points. The trans-Florida line, to transport 30,000 barrels daily of gasoline, will start operation in June.

To check a progressive decline in crude inventories, Petroleum Administrator Ickes during the month established a quota basis for all refineries in the Midwest and Southwest, giving him direct control over not only their volume of input, but also their product in ratios of output. The move was intended to insure ample immediate and longer-range war supplies. He also stipulated a total production rate for June of 4,218,900 barrels daily, down 18,500 barrels from the rate certified for May. The Southwestern and California regions have been upped, Midwest and Eastern areas cut, since it was found that the latter two cannot dependably supply what had originally been allocated.

Share Government Orders

In a move to permit smaller companies to share in sales to the Government for the armed forces without affecting their allotments for civilian sales, PAW has established an Army-Navy pool or "kitty" where all war supplies are identified. Any successful bidder on Government requirements may get the stocks from the war "kitty" to deliver to the Government, by making arrangements through the District Supply and Distribution Committee.

During the month three steps were taken to bolster the longer-range oil supply by encouraging more well drilling.

Most important of these liberalizes the conditions under which prospectors may try for oil on the millions of acres of Government oil reserves in Western states. In the past, reputable persons or companies could get permission to drill on these reservations with a stipulation that they give the Government as royalty from 12½ to 32%, depending on the richness of the discovery. This provision has been relaxed to require only 12½%, whatever the strike, making it the same as customary practice on civilian lands. The new provision applies to all oil taken from the new wells during ten years flow, but only to wells discovered during the war period.

The second step, defined in Preference Rating Order P-98-b, Amended, eases conditions under which materials and supplies for new discovery and development work may be acquired.

More liberal spacing provisions for wells in shallow fields in parts of Kansas, Oklahoma and Texas were announced May 21 to stimulate the development of new reserves by the many small operators in those areas. The spots enumerated are advantageously located for present transportation facilities.

On the oil price front, the major incident of the month was the refusal by Price Administrator Brown of an across-the-board rise in crude prices advocated by Mr. Ickes. The action created a mild furor in several Government spots, including Congress and the Petroleum Industry War Council. Brown felt that there was insufficient evidence that a higher price to all producers would have the claimed effect of stimulating new discovery, stating that the Price Administration preferred to deal with individual sections and instances, as in the past, where definite action is indicated.

He pointed out that in the case of marginal and stripper wells, whose owners were in distress over too low crude prices, his office had denied only six out of 53 applications for relief during the past year.

The wildcat subsidy plan proposed by Brown as an alternate seemed impractical to PAW and to many oil men, so a compromise may be in the wind.

Of special interest to fueloil distributors is the probability that retail prices of distillate oils will be raised ½¢ on drops under 100 gallons during next heating season.

◈

Torrington Mfg. Co., Torrington, Conn., has published a new 64-page catalog containing complete information on all of their lines of blower wheels. Important sections are included on tips for design of air impelling units and on an outline of the research laboratory services the company is in position to offer manufacturers.

*Eastern tank car receipts of all petroleum products in average number of barrels per day were:

Week ending May 1 ...	980,241
Week ending May 8 ...	965,582
Week ending May 15 ...	980,326
Week ending May 22 ...	884,768

Now's the time for G-E Dealers to get busy!

Now the heating season is over, you have your chance to cash in on the G-E advertising which is urging home owners to have furnaces cleaned, inspected and adjusted *this summer.*

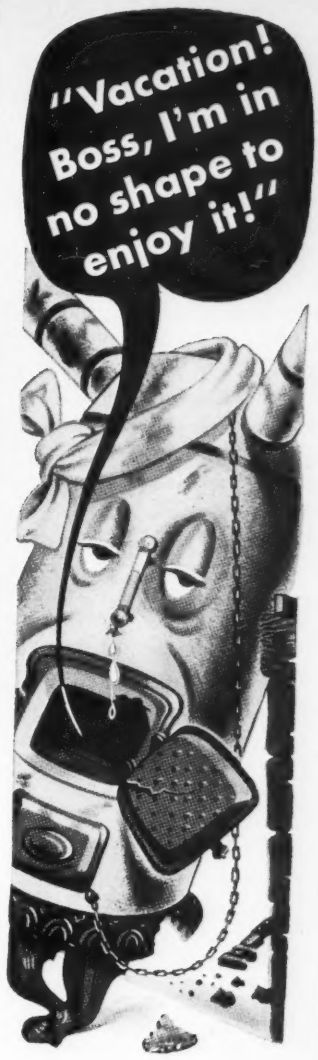
The advertisement reproduced here is the third in the series. It will appear in *Better Homes & Gardens* for July and in *American Home* for August. Like the May and June ads in both of these magazines, it tells home owners to call in the local *G-E Dealer.*

This offers you an opportunity to get added service business in the slack months—to avoid some of the fall rush—to cultivate good prospects for new G-E heating equipment after the war.

There are plenty of people in your territory who *need* the expert service G-E Dealers can supply. Go after them *now*—and good luck! *General Electric Co., Heating Division 3486, Bloomfield, New Jersey.*

GENERAL ELECTRIC

fuel oil & oil heat



"A rest this summer won't fix ME up for next winter! Talk about torpid liver—my whole *system* needs overhauling. Get me fixed up now, and then we can *both* rest easy."

* * *

DON'T wait until the fall rush is on! Avoid service headaches by arranging for *summer* inspection and adjustment of your heating plant. No matter what furnace or fuel you're using, call your G-E Heating Dealer, today!

Ask also for our booklet, "Tips on Fuel Conservation." It's free—tells how to keep warm and save fuel. Address *General Electric Co., Heating Division 3147, Bloomfield, New Jersey.*

GENERAL ELECTRIC

Service ABCs

WAR CONDITIONS make adequate service difficult. Problems of manpower, transportation and material shortage often cause distress both within the service organization and in customers' homes. Because many of the best service men have gone to war and their places must be filled by relatively inexperienced men, the Editors plan a series of elementary "do's and don'ts," of which this is the first.

Nozzle Service

Last year, nozzles accounted for 14.3% of all causes of service—the largest percentage for any single part of an oilburner. Simple rules for nozzle care are:

1. In handling the nozzle, remember it is a precision device; don't abuse it. Be sure your wrenches fit snugly. If you do not have the regulation socket nozzle wrenches, be sure your Stilson or monkey wrench is not loose enough to slip.

2. The orifice should be cleaned and polished with pointed hard wood or the special soft wire found in some service kits. Do not use nail, pin or ordinary wire, or you may injure it beyond repair.

3. When the nozzle is taken apart, excess dirt may be flushed off with hot water. The mesh or basket and other parts which may have harder materials adhering may be cleaned by immersion in "Jiffy Juice," "Skiddoo," kerosene or other solvents. Sometimes a brush is required. Use the soft wire brushes found in some service kits or a toothbrush—never a harsh wire brush.

4. Parts made of stainless steel or Monel metal, which resist ordinary cleaning treatment, may be soaked for 24 hours in a solution of one-third nitric acid and two-thirds water, and then thoroughly washed in three or four waters, with brush applied. Care must be used with this acid as it is dangerous.

5. The disc slots may be cleaned with the service kit wire brush or with a razor blade which has been broken in half lengthwise. Use the broken edge as it is not so sharp as the blade.

6. In re-assembling a nozzle after cleaning, take care not to screw the disc into the tip too tightly as the slots may otherwise be damaged.

7. If damage is done to a nozzle beyond immediate repair possibility, it can be returned to the manufacturer for repair, or for exchange for a new nozzle. Manufacturers have the equipment and experience necessary for such work, not generally possessed by a dealer.

8. On some unsatisfactory installations it is necessary to adapt the nozzle and combustion chamber to each other. Some spray angles give a compact, bushy fire and others a long narrow flame. The firebox should suit the flame.

9. Two general rules-of-thumb should be kept in mind: the distance from the center of the nozzle to the top of the firebox should be at least twice the distance from the center of the nozzle to the floor; also, the floor area of the firebox should be about 100 to 120 sq. in. per gallon-per hour firing rate.

◈

William Embry Wrather, outstanding petroleum geologist, was sworn in May 7 as Director of the Geological Survey of the Department of the Interior.

Owens-Corning Fiberglas Corp., Toledo, Ohio, has published a new catalog of Dust-Stop air filter sizes for practically all makes of domestic warm air furnaces and airconditioning units.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	April		Percent		(Sept. 1 to Apr. 30)			Percent
Normal	1942	1943	Change*		Normal	1942	1943	Change*
549	473	759	+ 60.5	Albany	6366	6221	7100	+14.1
173	116	164	+ 41.4	Atlanta	2967	2866	2812	— 1.9
347	234	437	+ 87.0	Baltimore	4410	3781	4346	+15.0
538	463	649	+ 40.2	Boston	5605	5224	5913	+13.2
672	551	842	+ 53.0	Buffalo	6454	6003	6864	+14.3
536	370	583	+ 60.2	Chicago	5946	5314	6548	+23.1
374	279	458	+ 64.1	Cincinnati	4861	4397	4783	+ 8.8
551	398	652	+ 63.9	Cleveland	5674	5393	6070	+12.6
95	74	49	— 33.8	Dallas	2364	2393	2314	— 3.3
523	399	291	— 27.1	Denver	5513	5636	4895	—13.1
449	282	458	+ 62.4	Des Moines	6191	5536	6469	+16.8
566	401	679	+ 69.4	Detroit	6391	5582	6515	+16.7
575	374	655	+ 75.2	Grand Rapids	6392	5600	6582	+17.5
525	433	665	+ 53.6	Hartford	5821	5542	6239	+12.6
643	585	533	— 8.9	Helena	7191	7964	7953	— 0.1
38	28	16	— 43.0	Houston	1321	1406	1212	—13.8
414	275	490	+ 78.3	Indianapolis	5304	4664	5536	+18.7
327	185	254	+ 37.1	Kansas City	4865	4334	4911	+17.9
158	168	130	— 23.4	Los Angeles	1258	1230	1081	—12.1
302	169	370	+119.0	Louisville	4329	3939	4452	+13.0
621	469	671	+ 43.1	Milwaukee	6615	6209	7269	+17.1
580	400	621	+ 55.3	Minneapolis	7643	6557	8229	+17.1
32	26	21	— 19.3	New Orleans	1207	1349	1205	—10.7
467	360	589	+ 63.6	New York	5094	4619	5146	+11.4
414	271	349	+ 28.8	Omaha	5922	5577	6048	+ 8.4
379	292	521	+ 78.5	Philadelphia	4615	4253	4798	+12.8
448	346	620	+ 79.2	Pittsburgh	5257	5078	5536	+ 9.0
668	611	804	+ 31.6	Portland, Me.	6753	6745	7409	+ 9.7
370	327	286	— 12.5	Portland, Ore.	3973	3830	3784	— 1.2
543	445	632	+ 42.0	Providence	5701	5180	5755	+11.1
305	204	312	+ 53.0	St. Louis	4514	4077	4582	+12.4
450	437	283	— 35.1	Salt Lake City	5335	5956	5195	—12.8
269	284	282	— 0.7	San Francisco	2310	2136	2222	+ 4.0
827	634	947	+ 49.4	Sault Ste. Marie	8527	7839	8895	+13.5
440	366	341	— 6.8	Seattle	4256	3841	4011	+ 4.4
534	369	668	+ 81.0	Toledo	5976	5428	6368	+17.3
345	229	414	+ 81.0	Washington	4478	3877	4303	+11.0

*Compared with last year, not with normal

Announcing a new and easier way to sell Dust-Stops*

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Gas Heating Gained 14% In 1942

THE TOTAL NUMBER of gas-fired domestic central heating installations increased 14% in 1942 over 1941, according to the fifteenth annual survey by the American Gas Association, covering the operations of 265 gas utilities. These companies had 577,892 such customers in 1942 and 506,540 in 1941. Oilheating, on the other hand, had a slightly smaller total in 1942 than in 1941, because new installations did not equal the total of replacements plus conversions to coal.

The 265 reporting gas companies serve about half of all central heating gas users in the country, so their progress may be considered representative. On the average, the companies selling manufactured gas had 21 central heating customers for each 1,000 gas users on their books, while natural gas companies had 86 central heating customers in each 1,000 gas accounts.

Warm air heating has been the traditional favorite in the gas industry, outpointing radiator heating in a ratio of 76 to 24 or a little more than three to one. The rate of gain in 1942 was also stronger in warm air systems; the total number using warm air increased 23%, while gas-heated radiator systems picked up only 10%. Oilheating installations are in nearly the reverse ratio, with only 37% in warm air plants and 63% in steam or hot water systems. In the table at the left, the geographic pattern of gas usage for central heating is also apparent. In the New England and Middle Atlantic states, the gas industry has 25% of its central heating customers, while fueloil has in those areas 58% of its comparable users.

An indication of why gas has made so little headway in New England lies in comparative costs of gas and oil heating. With the average user requiring 419 MCF of gas, his heating bill with 60¢ gas is $251. The New England oilburner consumption for domestic central heating average in a normal year 2,400 gallons, which at a 7¢ peace-time price would mean $168 for a season's heat. In the Midwest, however, there is little cost difference between 1,100 Btu natural gas at 55¢ and fueloil at prevailing prices.

Domestic Central Heating Customers of 265 Gas Companies

State	Companies Reporting	Domestic Central Heating Customers 1942	1941	% Inc.	Radiator Heating Percent of Total BB Units	Radiator Heating Percent of Total Conversions	Warm-Air Heating Percent of Total FB Units	Warm-Air Heating Percent of Total Conversions	Annual Consumption MCF per Average Customer
Maine	5	651	525	24	27	19	50	4	290
New Hampshire	6	249	246	1	54	29	12	5	497
Vermont	3	14	15	..	14	21	7	58	271
Massachusetts	34	14,941	12,400	20	29	34	27	10	423
Rhode Island	3	1,592	1,402	14	36	41	14	9	368
Connecticut	11	2,706	2,345	15	45	19	29	7	457
New England	62	20,153	16,933	19	31	33	26	10	419
New York	16	44,818	41,003	9	32	34	18	16	343
New Jersey	9	17,862	14,863	20	21	23	51	5	238
Pennsylvania	21	30,138	23,975	25	42	14	38	6	231
Maryland	3	5,221	3,944	32	16	4	80	0	156
Dist. of Col.	1	25,233	22,103	14	..	..	..	..	139
Delaware	2	532	445	20	41	17	36	6	168
Middle Atlantic	52	123,804	106,333	15	33	24	33	10	251
Ohio	6	12,691	10,230	24	4	10	48	38	165
Michigan	12	31,493	26,379	19	2	9	49	40	165
Indiana	7	5,739	4,442	29	3	8	56	33	292
Illinois	10	34,838	29,808	17	8	15	47	30	249
Wisconsin	4	4,440	3,206	38	11	6	73	10	274
Minnesota	5	26,126	20,744	26	10	24	31	35	156
Iowa	5	13,950	11,820	18	2	6	57	35	173
Missouri	9	43,107	38,799	11	12	24	40	24	186
Kansas	6	35,813	32,620	10	1	7	46	46	148
Nebraska	5	16,338	14,690	11	3	1	94	2	164
Midwest	69	224,535	192,738	17	5	11	54	30	183
Wyoming	3	10,514	9,822	9	17	9	56	18	244
Colorado	3	20,608	16,893	22	4	11	57	28	250
New Mexico	1	16	16	0	19	25	13	43	287
Arizona	1	189	184	3	12	22	65	1	126
Utah	1	7,501	6,923	8	8	2	77	13	166
Washington	3	2,657	2,536	5	3	3	62	32	254
Oregon	3	8,754	8,144	8	3	2	84	11	201
California	2	114,821	109,584	5	1	0	99	0	54
West	17	165,060	154,048	7	3	2	89	6	109
Virginia	4	1,150	581	98	65	3	32	0	109
West Virginia	3	3,673	2,788	32	4	7	78	11	128
North Carolina	3	64	67	..	33	6	50	11	232
South Carolina	1	21	20	5	5	10	72	13	88
Georgia	3	15,788	12,607	25	5	11	72	12	177
Florida	8	2,217	1,420	56	8	2	90	0	44
Alabama	13	4,403	3,446	28	5	12	73	10	164
Mississippi	2	670	483	39	71	6	21	12	157
Tennessee	5	5,953	5,195	15	29	39	27	5	198
Arkansas	3	724	642	13	13	43	39	5	153
Louisiana	4	490	619	..	22	19	51	8	58
Oklahoma	5	3,888	3,637	7	14	25	26	35	208
Texas	11	5,299	4,983	6	9	16	50	25	182
South	65	44,340	36,488	22	13	16	58	13	170
Total Reporting	265	577,892	506,540	14	12	12	59	17	183

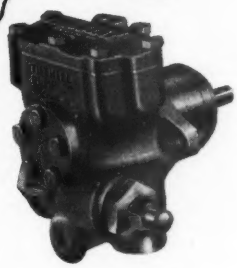
Florida Senators Want State in Oil Business

A BILL WHICH WOULD authorize the Florida State Road Department to go into the business of hauling fueloil and gasoline to relieve the state's shortage was introduced May 10 in the Florida Legislature by eight senators.

The measure asserted that existing arrangements among oil companies and common carriers sanctioned by the Federal Petroleum Administrator "tend to make such transportation non-competitive and monopolistic, and makes possible arbitrary fixing of prices of products in amounts unreasonably above a fair return."

According to Senator Graham of Miami, one of the sponsors, the bill would enable the road department to operate barges, tank trucks or pipelines "so we could get enough fueloil, which I understand there is no shortage of, and to get an adequate supply of gasoline so we could be taken out of Zone 1."

TIME OUT
FOR RECONDITIONING



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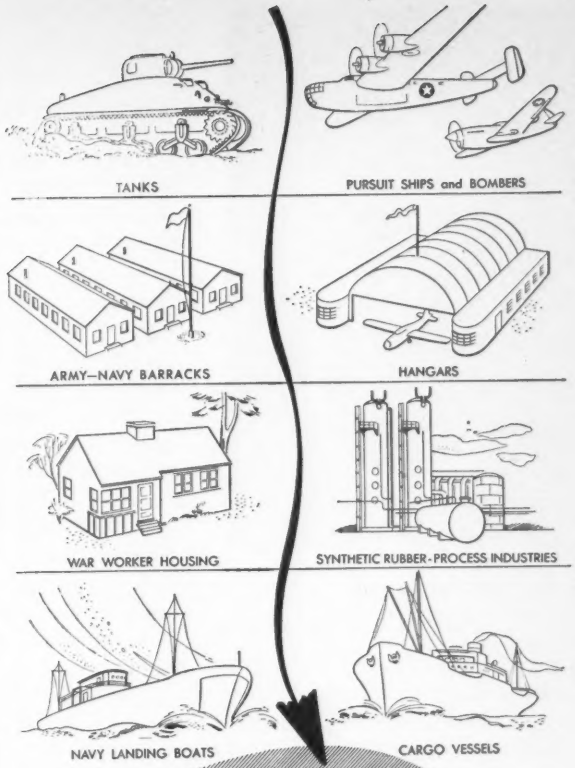

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Lionel Jacobs Heads Atlantic Conference

LONG ACTIVE IN association work in the oilheating industry, Lionel Jacobs, president of Automatic Heat, Inc., Philadelphia, was elected chairman of the Atlantic Coast Oil Association's Conference at its annual meeting in New York May 20. He succeeds "Dixie" Butler, of Home Oil Co., Passaic, N. J., who recently accepted an Army commission. Clyde Morrill continues as executive director of the Conference.

Born in Ireland, Jacobs went to Canada in 1910 to build a tar distillation plant, entered oilheating in 1920 as Montreal branch manager for Fess Oilburners of Canada, Ltd. He served two terms as president of the American Oil Burner Association and the Oil Heating Institute, predecessors of the present Oil Heat Institute of America. He was for a number of years vice-president and general manager of Electrol Incorporated, oilburner manufacturers.

Jacobs' fueloil distribution experience came with the purchase of his present company, which had several thousand fueloil accounts, and he has recently been a leader in the activities of two Philadelphia associations.

◈

Claude S. Slocum has been appointed factory representative for General Controls Co., Glendale, Calif., with his headquarters at Denver.

Seiler Now Lieut. Col.

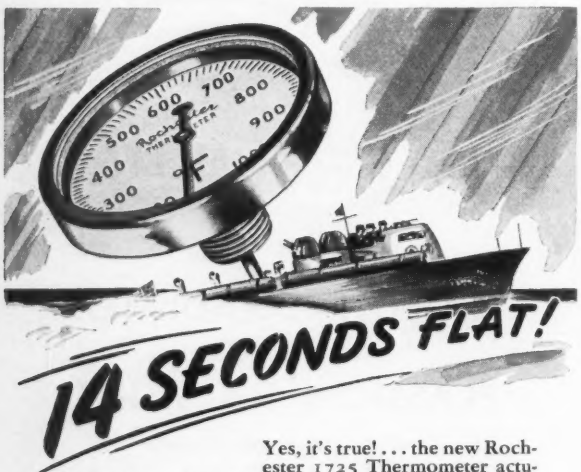
ARTHUR J. SEILER, former president of York Oil Burner Co.,Inc., York, Pa., and now serving as chief of the Industrial Division of the Philadelphia Ordnance District, has been advanced from the rank of Major to Lieut. Col. An engineering graduate from Montana State College and the Massachusetts Institute of Technology Seiler was a Reserve Officer and was called to active duty in November 1940 to head tank production at the Baldwin Locomotive Works, Eddystone, Pa.

◈

Fred S. Denison

AN ENGINEERING EXECUTIVE of the Minneapolis-Honeywell Regulator Co. and manager of the company's Lake Street ordinance plant, Fred S. Denison died April 19 at his Minneapolis home. He was 56 years old.

Coming to the company 35 years ago he was the first member of its engineering department. At that time the company manufactured only thermostats and spring motors. In 1940 Denison was given



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◈

Earl Marr

ONE OF THE BEST KNOWN and most colorful men in oilheating, Earl Marr died May 7 at the U. S. Veterans' Hospital, Bay Pines, Florida, aged 49.

After a youth in the Wenatchee, Wash., apple country and an infantry war record in France, Marr started selling heating equipment on commission in Minneapolis after the war. With oilburners starting to attract notice, he began manufacturing the Marr burner in 1922.

Marr joined Airtemp in 1939 as Eastern district manager for heating, and two years later was moved to Dayton in charge of Airtemp sales. Leaving in 1942, he established a fueloil distribution company at Norfolk, Va.

From 1926 until shortly before his death Marr was a director of the American Oil Burner Ass'n. and the Oil Burner Institute and chairman of its legislative committee. He won the coveted Alladin's Lamp for distinguished service in the New York ordinance fight before the Albany legislature.

◈

John T. McTarnahan

LONG IDENTIFIED with the oilheating industry through his former executive position in Petroleum Heat & Power Co., John T. McTarnahan died April 29 at his Larchmont, N. Y. home, aged 58.

Born in Mono County, Calif., he served in the Navy in 1895 and was lightweight champion of the Atlantic fleet, winning the title at Havana. An early aviation enthusiast, McTarnahan in 1912 flew the first plane across San Francico Bay in connection with ground-breaking exercises for the Panama-Pacific Exposition.

At the time of his death, he was president of La Mont Licensing Co., Ltd., and Steam Power, Inc., both in New York. He was a brother of W. C. McTarnahan, president of Petroleum Heat and Power Co., New York.

Oil-O-Matic Praises Spirit of Oilheat Users

IN A SPECIAL MESSAGE directed "To the 20 Million Americans Depending on Oil Heat," the Williams Oil-O-Matic Heating Corporation lauds their spirit in coping with fuel shortage problems. The Oil-O-Matic salute brings national recognition of the resourceful and varied manners in which oil heat users have spread available fuel allotments over the past season.

Key city newspapers, in a coast-to-coast schedule, totaling 12,000,000 copies, carried the advertisement in 1000-line space. Key cities were selected to parallel the oilheating market and also on the basis of their potential in post-war heating business.

While the Oil-O-Matic message is primarily a salute to all of the Nation's oilheating users and their splendid morale under today's trying conditions, the Tomorrow theme featued in current Oil-O-Matic copy receives prominent mention.

Good display is likewise given to a strong War Bond appeal: "The War Bonds You Buy Today Are Your Guarante of a Better Tomorrow!"

SMOKY FIRES? POOR CO_2?

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Almost any Nozzles seem to give passable fires on some burner installations—but "passable" results are "out" for the duration! *How about* those jobs you aren't quite satisfied with? Are they pulsating on start-up, running, or shut-down? Do they have smoky fires? Combustion roar? Poor CO_2?

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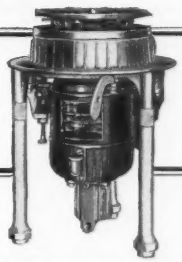

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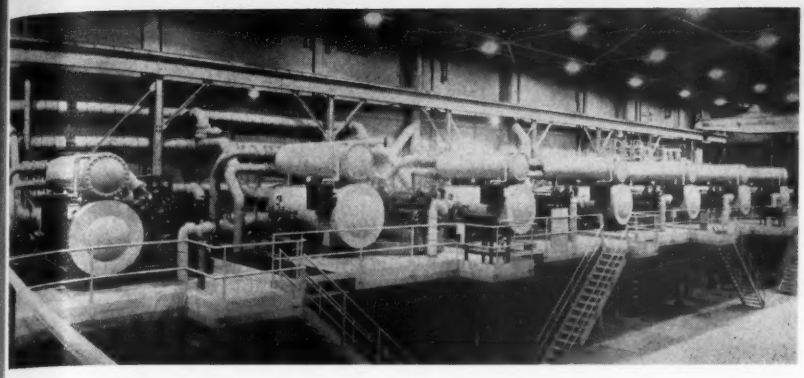

Aircraft Plant Summer Cooling

ONE OF THE NATION'S LARGEST industrial air conditioning systems is in operation at Tulsa, Okla., to safeguard workers and vital aircraft parts at the new 21-acre blackout bomber plant operated by the Douglas Aircraft Corporation.

The mammoth air processing equipment, designed and installed by engineers of the York Ice Machinery Corporation has a refrigerating capacity of 7,000 tons a day. In a 24-hour period it will remove enough heat from the 21-acre interior of the plant to melt almost 6½ acres of ice a foot thick, according to J. C. Tweedell, York Field Manager.

A battery of seven turbo water cooling systems chill more than 14,000 gallons of water a minute from a temperature of 59 degrees to 47 degrees. The chilled water is pumped through cooling coils located in all parts of the building. Air temperature and humidity is lowered as air is circulated over the coils by fans. The amount of water handled by this equipment in a single day, Mr. Tweedell said, would be sufficient to supply all the fresh water requirements of a city the size of Syracuse.

Air conditioning in the windowless blackout plant is vitally necessary to maintain normal operations during the summer and to a large extent in the winter as well, Mr. Tweedell explained. Summer temperatures in Oklahoma go as high as 100 degrees and average 80 degrees but in the new blackout plant the mercury would climb to an average of 110 degrees without air conditioning. Machinery, lighting and the hundreds of workers themselves would all contribute to increasing the temperature to an unbearable level. On unusually warm days, operations might have to cease altogether.

◈

ODT Tank Truck Order Has Fueloil Provisions

ELIMINATION OF MANY peacetime frills from the services of petroleum tank trucks engaged in local deliveries and establishment of minimum quantities for motor fuel deliveries have been ordered by Joseph B. Eastman, Director of the Office of Defense Transportation.

Intended to enable local distributors of petroleum products to continue essential services in the face of rubber and man-

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ON 25% LESS FUEL

Severe fuel rationing has put *sales magic* into these simple words, "A Field Control keeps you *warmer* on *less* fuel!" Always a best-seller because it cut fuel costs from 5% to 25%, the fuel saving Field Control *now* has a stronger appeal and greater market than ever before. The complete Field line covers all residential and commercial needs. And there's *profit* in every easy sale, installation taking as little as 30 minutes.

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For any oil burner service these J-M Refractories give long satisfactory service with practically no attention or maintenance. Available through your local distributor.

JM JOHNS-MANVILLE
22 East 40th Street, New York, N. Y.

power shortages and other wartime problems, the action was taken through a general order (General Order ODT 37) drawn up by officials of the ODT. It will become effective June 1, 1943.

Most of the provisions of the order are based on reports and suggestions submitted by industry representatives who make up ODT's state Petroleum Transport Advisory Committees on Local Delivery.

The order prescribes minimum quantities for motor fuel deliveries by tank truck to retail outlets, such as gasoline stations, and to farms and other ultimate consumers. The effect of the minimum-drop provisions is limited largely to automotive gasoline. Rationing uncertainties, Mr. Eastman explained, make it undesirable—for the present, at least—to apply minimum-delivery requirements to fueloil.

In general, deliveries of motor fuel by tank truck must be at least 60 per cent of the storage capacity currently being used by the receiver for the particular grade and brand delivered. To ultimate consumers, however, no delivery of motor fuel may be less than 150 gallons, except those to farms, to which may be delivered any quantity of 25 gallons or more which constitutes 60 per cent of the tank capacity or which fills the storage receptacle.

Farm Restrictions

The order further provides that in the delivery to farms of several kinds of petroleum products aggregating at least 50 gallons, no minimum-drop requirements will apply to any one product. Moreover, in no instance may a single delivery of more than 150 gallons of motor fuel to a farm be required. Mr. Eastman urged, however, that farmers, as well as other consumers of liquid fuel, accept deliveries in such quantities as will minimize the use of transportation facilities.

Allowance is made by the order for instances in which deliveries are made by tank truck compartments.

An exception to the minimum-drop requirements authorizes the operator to deliver any quantity which completes the emptying of his tank truck. Moreover, while making a permitted delivery he may deliver to the same point any quantity of another grade or brand carried in the same truck at the same time.

With certain specific exceptions, the order prohibits call backs and the use of tank trucks for any purpose but petroleum deliveries and requires that less-than-truckload deliveries of motor fuel or fuel oil must be dispatched as a part of a full load and "routed in a manner that will best conserve mileage and time."

Under the terms of the order, no operator may be required to "make any less-than-truckload delivery of motor fuel or fuel oil by tank truck within less than 48 hours of receipt of the order." Commenting on this provision, Mr. Eastman appealed to purchasers to cooperate by refraining from demanding such quick service, in order that distributors may improve planning and routing to save rubber, gasoline, manpower, and equipment.

The order forbids the transportation or delivery of motor fuel for transfer directly from a tank truck into the fuel tank of any automotive equipment or vehicle. Specifically excepted from this provision, however, are deliveries of 25 gallons or more into the tanks of farm machinery and deliveries made by a bulk consumer or farm operator into the tank of any piece of equipment used by him.

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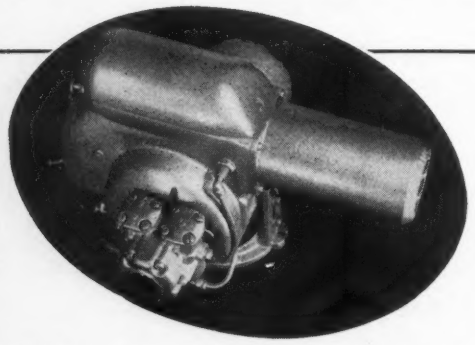
by the Products You Sell



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Specifically exempted from the restrictions of the order are:

1. Tank trucks operated under the direction of the War Shipping Administration, the Maritime Commission, or the armed forces, and deliveries made to those agencies.

2. Deliveries made in emergencies, exclusively for the protection or preservation of life, health or public safety.

Exemptions from the minimum-drop requirements are provided for instances in which compliance would conflict with PAW inventory restrictions or, as the result of a supply shortage, would cause discrimination among the seller's customers.

◈

Enlarged Rationing Program on Stoves

NATION-WIDE RATIONING of heating and cooking stoves that burn coal, wood, oil or gas will begin in the latter part of June, Price Administrator Prentiss M. Brown announced.

In the new program, OPA, as directed by the War Production Board, expands the plan under which coal and oil heating stoves already are rationed under Ration Order 9 in 32 states where fuel oil is rationed. The plan for rationing cooking stoves as well as heating stoves was developed to assure fair distribution of the limited number of stoves that will be available, Mr. Brown stated.

The plan also takes into consideration relative shortages and is designed to encourage the use of less scarce fuels. In the fuel oil rationed areas, for example, it will be relatively easy to obtain coal-burning equipment and difficult to buy oil-burning equipment.

Six specific types of stoves will be rationed under the program: coal or wood heating stoves (including laundry stoves, but excluding water heaters); oil heating stoves; gas heating stoves; coal or wood cooking stoves; oil cooking stoves; and gas cooking stoves.

Highlights of the plan as it will affect consumers, dealers, wholesalers and manufacturers are:

1. Anyone who wants to buy a stove after the plan becomes effective will apply first to his War Price and Rationing Board for a purchase certificate which will be issued on the basis of individual need.

2. The number of purchase certificates which a War Price and Rationing Board may issue will be limited by a quota system set up to assure fair allocation of the total supply of stoves.

3. Dealers and wholesalers, on dates to be announced, will register their 1941 sales of new stoves and their present inventory of new stoves with War Price and Rationing Boards. The Board will assign each dealer or wholesaler an inventory allowance. Manufacturers will register with OPA in Washington on a special form to be supplied them.

The plan has been developed, Administrator Brown stated, with the advice and active cooperation of industry representatives, as well as of consumer groups who made suggestions relating to consumer needs. Dates for trade registration and for launching the plan will be announced as soon as the printing and distribution of forms make it possible to do so.

While certain other details are still to be worked out, the plan in broad outline is complete and will be explained to OPA personnel in the field at a series of training schools scheduled for the next few

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ABC Burners in thousands of homes are sturdily serving the Homefront.
Our factory is producing vital war materials and supplies for America—precision work which fits the requirements for victory.
We are shipping ABC burners and accessories to the armed forces for many necessary uses. To all who supply the Nation's military needs for oil heating, we stand ready to co-operate with the best and quickest service in our 25-year history.
ABC has always prided itself on high quality. Whole-hearted participation in this great war effort has increased our capacity to produce, and admiration for, high quality. On V-Day we'll be ready to serve ABC Dealers in the great post-war markets.
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AUTOMATIC BURNER CORPORATION
Chicago, Ill.
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Fuel oil & oil heat

weeks in various parts of the country. Several meetings for members of the industry and trade are also scheduled.

After the plan goes into effect, applicants for a stove purchase certificate will qualify under these general eligibility rules:

1. The stove is to be used in essential living or working space; and
2. The applicant has no stove that can be used; or
3. The stove is to replace one worn out beyond repair; or
4. The applicant has not within 60 days disposed of a stove which could have been used.

Applicants for coal or wood stoves, either for heating or cooking, in the fuel oil rationed area, will have a special eligibility if: (1) they have been burning fuel oil and are eligible for an auxiliary fuel oil ration of 350 gallons or more; (2) they are planning to convert from fuel oil to coal or wood (this will apply only in areas to be designated by OPA); and (3) (also in areas to be specified) if an oil fired central heating plant already installed is not supplying sufficient heat for health and comfort.

Applicants for oil heating stoves in the fuel oil rationed area will also be questioned as to whether coal or wood burning equipment, or fuel for it, is available; whether there is a chimney or other means of venting; and whether any member of the household is physically able to operate coal or wood burning stove.

Applicants for gas cooking or heating stoves will be required to meet eligibility requirements of WPB, which place certain restrictions on the use of gas and on new gas connections.

Quotas of the six types of rationed stoves will be set up by OPA on the basis of stove supply figures to be determined by WPB. Regions, States, Districts and War Price and Rationing Board areas will be given quotas based on a careful study of their needs. The total of stoves of each type already in use in the area will be considered, as will types of fuels used, population shifts and the climate.

Local rationing boards will limit issuance of purchase certificates to their respective quotas.

All dealers and wholesalers, after they register, will be assigned an inventory ceiling which will limit the number of stoves which he may have in stock at any one time. This ceiling will be determined on the basis of his 1941 sales and the present limited supply of stoves. Dealers and wholesalers with fewer stoves on hand when they register than the assigned ceiling will be issued inventory certificates with which to bring their stock up to the ceiling later.

Specifically exempted from rationing will be electric stoves and heaters, water heaters, buckets-a-day or dome water water heaters, salamander heaters, caboose stoves, floor furnaces, central heating equipment, and all heating and cooking equipment designed especially for commercial, industrial, agricultural, or institutional use. Sales of such equipment will continue to be controlled by the War Production Board orders.

Rationing of furnaces and boilers for necessary replacement, through local boards is a possibility, not too probable. Three Washington agencies are exploring the necessity; the one favoring it believes that with production cut to 10% or 15% of normal output rationing is the only way to distribute scarce stocks to necessary cases.

◈

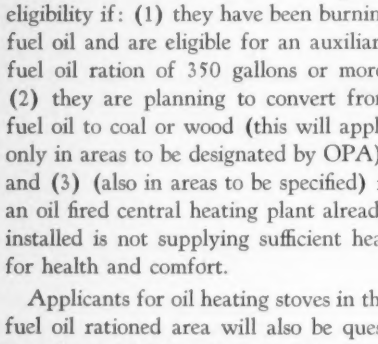
Robert F. Doepel, general manager and secretary-treasurer of Braun Bros. Oil Co., Winnetka, Ill., has been commissioned a major in the Signal Corps. He left May 21, for active duty.

ODT Suggests Measures to Care for Laid-Up Truck

UNLESS PROPER MAINTENANCE provisio are made, trucks or other commerci motor vehicles taken temporarily out service will suffer from deterioration a damage that will make their rehabilitati difficult and, in some cases, impossibl the Office of Defense Transportati warned.

The ODT outlined a specific progra for the proper maintenance of idle truck

Although there is a scarcity of truck a number are temporarily out of servi in some sections, the ODT pointed ou



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In fact the same lights that burned night and day at Sun's research laboratories to develop this modern domestic furnace oil are now burning bright as ever to keep it at its highest quality . . . and at the same time develop new and finer fuels for the world of tomorrow.

Yes, tomorrow will bring many looked for improvements . . . but right now it is the duty of all of us —supplier and service man alike— to do our part in conserving. Ours to provide fuels with maximum heat value . . . yours to keep oil burners operating at peak efficiency with service. Let's both work together.

SUNHEAT FURNACE OILS

SUN OIL CO., PHILADELPHIA

cause of mileage curtailment and other artime readjustments, the drafting of uck operators into the Army and the ss of some operators to war plants. Some hool buses are idle for the same reasons, e ODT added.

The ODT emphasized the need for reful maintenance of this idle equipent until such time as it is placed into eful war work. Reports have been reived by the ODT that idle equipment as, in many cases, been neglected.

If the vehicle is to be run occasionally, heels and tires should not be removed. Fuel and water also may be left in, with precautions against freezing.

The suggestions outlined below are for trucks in *dead* storage.

1. Body Paint

a. Store trucks in a clean, dry place, roofed, free from water leaks, lime from white wash, and sunlight.

b. Cover trucks with either paper or cloth covers.

2. Tires

a. Trucks should be jacked up so that tires will be clear of the floor.

b. Keep inflated to slightly above operating pressure.

c. Remove wheels and tires and store in a cool, dark place.

d. Pack horizontally, not vertically.

3. Bright Work

a. Cover with coat of light oil, vaseline, or cup grease.

4. Cab

a. Close all windows to prevent dirt and dust from entering cab.

5. Batteries

a. Remove batteries from vehicle.

b. Check gravity every three weeks in hot weather.

c. Recharge every six weeks to gravity reading of 1.280 or above. In no case allow gravities to fall below 1.220 (gravities given are correct at 60 degrees F.).

d. Keep correct water level.

6. Radiator

a. Drain to prevent rust.

b. Be sure all water drains from the entire cooling system.

7. Engine and Gasoline System

a. Drain all gasoline from tank.

b. Run engine until carburetor and fuel pump or vacuum tank are empty.

c. Be sure carburetor is drained, otherwise gum will form as the gasoline evaporates.

d. Remove spark plugs and inject into every cylinder one-half ounce of lard oil. Rotate engine to leave a coating of oil on cylinder walls and replace spark plugs.

8. Clutch

a. Disengage clutch and place block of wood beneath clutch pedal and the underside of the floor board. The block should be large enough to hold the clutch disengaged.

9. Rear Axle, Transmission, and Engine Oil

a. Do not remove.

10. Hand Brake

a. Leave in a release position.

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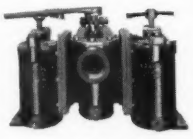
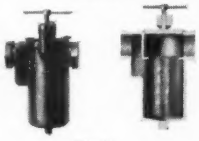
Kraissl Class 72 Strainers and Filters

Single and duplex types for suction and discharge service. Any practical degree of filtration. A necessity on every fuel oil line to protect pumps and burner nozzles. Available for low pressures as well as high pressures up to 500 pounds hydrostatic test.



Duplex



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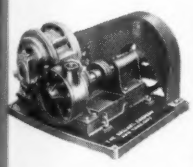
Kraissl Class 60 Heavy Oil Pumps



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Kraissl-Trumbull #522 Fuel Pump Unit

For gravity type oil burners having a burning capacity of not more than 3 gallons per hour. A rugged, dependable, wall pump approved by Underwriters' Laboratories, Inc.

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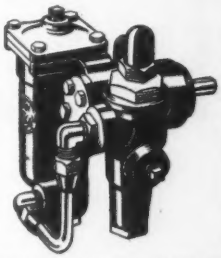

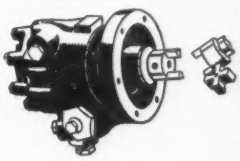

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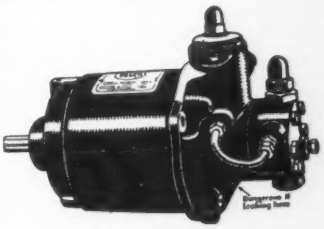

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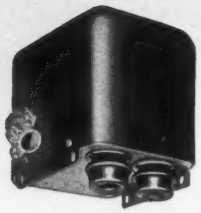

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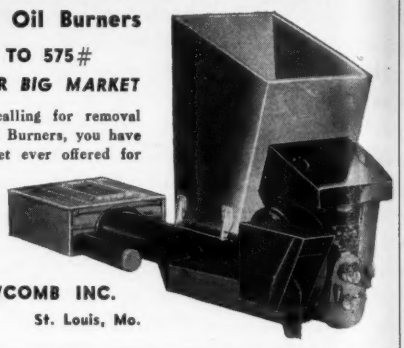

WRITE TODAY

SCOTT-NEWCOMB INC.
1923 Pine St. St. Louis, Mo.

Reader's Problems

Q. We have the problem of removing oil from a concrete basement floor so the floor can be painted. Do you recommend any particular type of cleaner for this?

A.G.A., SIOUX CITY.

A. It may be difficult to remove the oil spots but they must be eliminated if the paint is to stay put. A method often used calls for the use of a fairly strong sal soda solution which is washed freely over the concrete surface and then scrubbing in briskly with scrubbing brushes, hand or power driven. After the scrubbing, the floor is rinsed well with clean water, mopped up and allowed plenty of time to dry thoroughly.

If oil spots still show up, the treatment is repeated; this should get rid of remaining spots. Following this second drying out, give the floor a liberal soaking with a mixture consisting of equal parts of vinegar and water. Then give the concrete time to dry out thoroughly, after which it can be painted.

◈

Q. Can you give me the number of single dwellings in the New York area, as contrasted to the number of occupied dwelling units shown in the U. S. Bureau of Census figures?

J.J., CLEVELAND.

A. The figures for various breakdowns of New York are:

	N.Y. State	N.Y. City	Metrop. New York (Inc. No. N.J.)
Dwelling units	3,662,113	2,047,919	3,424,485
Res. structures	2,018,917	618,087	1,395,521
1-family homes	1,396,113	286,497	844,378
2-family homes	335,661	146,350	272,804

Q. I have an 1100 ft. 7-section boiler that heats a 15-room house. In the last two sections hard tar-like stuff forms, which has to be chipped out every week. You can stick your fingers in these sections when the burner is going and feel cold air. The burner is three years old and I have had several work on it but no one seems to locate the trouble. Have even changed to different oils. Could you suggest what might be wrong?

W.H.C., WILMINGTON.

A. It is essential to good operation that all space between sections of your boiler be tightly sealed, regardless of the fuel you use. The cold air sucked into the boiler between the sections may be cooling the oil spray enough to build up carbon in the combustion chamber, or even to precipitate unburned oil out of the flue gases.

It is not possible to know how your burner is operating without an instrument test. Changing oil might make a difference, except that today oils of the same grade are almost identical, due to wartime pooling of stocks. We suggest

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THE ORIGINAL. STILL THE BEST.
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Holds the draft constant in the fire box.
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Industrial sizes from 24" x 24" to 5' x 12'.

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★ This exclusive direct drive coupling, with rubberized cushion gripped permanently by die-cast ends, has no parts to get out of order, or to lubricate. Minimizes misalignment, free end float, and backlash. Custom-made for specific job. Lengths from 2-1/2" up. Bores 5/16", 3/8", 7/16" and 1/2". A million giving satisfactory service.

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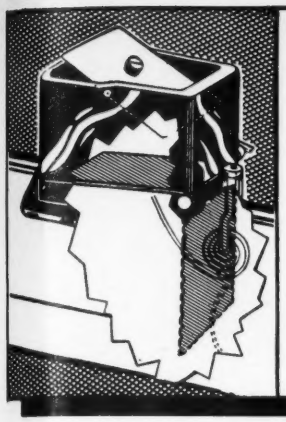

Profit by the experience of other dealers . . . with the HERD THERMOSTATIC DAMPER CONTROL

Nothing we could say about the HERD Control can possibly carry as much weight as the good things present HERD dealers say to others in the trade. We have scores of dealer letters here, of which we'd like to send you copies, offering conclusive evidence that you, too, can add sales and make good profits with the HERD Control.

You'll need sales in June, July, and August. HERD will give them to you, and will save your customers up to 40% on fuel, *guaranteed in writing!* Write TODAY for details.

HERD UTILITIES • INC.
303 CANAL ST., PROVIDENCE, R. I.
Distributors in Principal Cities

Approved by N. Y. City Board of Standards and Appeals after inspection and testing with the following results:

	Without HERD Control	With HERD Control
Draft over fire	.13	.04
Draft in flue pipe	.20	.09
Temperature at flue pipe	800°	375°
CO_2	7%	10%
Efficiency	65%	84.5%

hat you have the boiler air leaks sealed with furnace cement, then get the best possible man to test for operating efficiency.

◈

Q. During the last couple of years we've had complaints from oilburner owners about greasy film on walls and windows. Sometimes we find very small particles of soot on venetian blinds. What is your solution, assuming furnace does not leak?

E.S., SPOKANE.

A. There are a number of ways that oily soot and flakes can get into a house, though it is only possible to guess without knowing the particular job conditions.

Modern burner installations adjusted for high combustion efficiencies, usually are set for a minimum of excess air, and the higher the efficiency the more critical the setting becomes. Then, any loss in draft, a dirty fan, a worn nozzle, or any other factor that decreases air in proportion to the oil firing rate, will make soot.

Too little air sometimes will cause pulsations on the start or stop, and these pulsations, though they may be too small to hear, do create a positive pressure in the heating plant and flue, and force the products of combustion out through leaks between boiler or furnace sections, and particularly through some draft regulators. The products of combustion will then work their way upstairs and leave a deposit on the cooler windows and walls.

In your territory are many warm air furnaces. When there is an outlet or return in a basement playroom it is easy to see how the flake soot can get upstairs. The stack effect usually will pull air into the basement supply outlet as soon as the fan stops, and in this way the air does not pass through the filter, but is pulled directly on the supply side up to the rooms. However, if flake soot is escaping from the heating plant, it should be evident in the basement on any flat surface. Otherwise it would have to enter the house from the outside, but this is uncommon.

Streaks on the walls above registers are usually not due to dirt in the supply air, but come from warm air that rises in the wall outside the supply duct and leaks in around the outside of the register.

Often much of the deposit on windows which has been blamed on the oilburner actually is due to tobacco smoke, and has no connection with the heating plant, except that when humidity is high, the smoke particles deposit faster on the glass. This deposit, however, continues in the Summer, when the heating plant is shut down. We have known a number of cases where tobacco smoke film has been charged to the oilburner, particularly where humidity is added to the room air.

Where the fault is with the burner, the solution is to eliminate the cause of any slight puffing, probably on the start, that will force flue gases out of the furnace or draft regulator. This puff may be so small as to go unnoticed, yet over a long period it can produce a film on walls and windows.

Oil Burner, Stoker, or Air Conditioning Sales Organization wanted to handle old established industrial spreader stoker line. Here is an opportunity to capitalize on forced oil-to-coal conversions. No investment required.

BOX 459, FUELOIL & OIL HEAT
232 Madison Ave., N. Y. C.

OIL SOOT E-Z DESTROYER

CUT OIL HEATING COSTS

Simply spray E-Z and soot vanishes instantly. Customers always satisfied. One trial will convince you.

"EASY TO USE— ECONOMICAL TOO!"

DISTRIBUTORS: *Write for fine proposition.*

HEALY-RUFF COMPANY, 797 Hampden Ave., St. Paul, Minn.
Enclosed find check ( ) money order ( ). Send the following prepaid:

No. 1 pkg. ....$1.00 Name .....
Address .....
No. 5 pkg. .... 4.50 City ..... State.....

Fire box

FUELOIL & OIL HEAT CLASSIFIED ADVERTISING

{Insertions are payable in advance. The rate is 75 cents per} {line, with a minimum charge of $4.50 for six lines or less.}

NATIONALLY KNOWN industrial oil burner manufacturer in the Midwest is in immediate need of a man to take complete charge of our machine shop. Must be fully experienced in the manufacture and production of oil burning equipment. Box 459, FUELOIL & OIL HEAT, 232 Madison Ave., N. Y. C.

OIL & BURNER DEALERS! Save your customers as high as 30% of their oil consumption with "AGITAIR" Heat Baffle. Easy to install. Higher CO_2 and lower stack temperature. Made of high quality fired refractory. Additional information upon request. AIR DEVICES, INC., 17 E. 42nd St., New York City, or 2326 So. Michigan Avenue, Chicago.

WRITE US for descriptive literature of our Oil Burner Electrodes and Accessories. Specialty Sales & Service Corp., 138 Holden Street, Minneapolis, Minn.

KEN TINNED "SOFSTEEL" TUBING replaces copper. Bends and flares easily. 50′ coils. Sizes 1/4, 5/16 or 3/8″ o.d. DEALERS SAVE MONEY—write for our catalog of all installation accessories and replacement parts for oil burners, stokers and automatic heating. Robert Barclay, Inc., 130 N. Peoria St., Chicago, Ill.

BURNERS BIG, BURNERS SMALL, BOILER AND FURNACE UNITS. Burners for Nos. 3, 5, and 6 oil—Yes Sir, we have 'em.
CHALMERS OIL BURNER COMPANY
318 1st Ave. N., Minneapolis, Minn.

WANTED: Dies for 6″ burner bowl one wick type depth of oil groove 1-3/16 inches. Perforating dies for burner shields and cover plate. Box 457, FUELOIL & OIL HEAT, 232 Madison Avenue, New York, N. Y.

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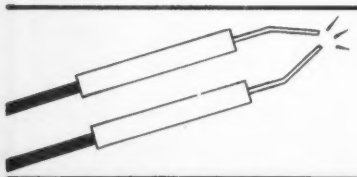

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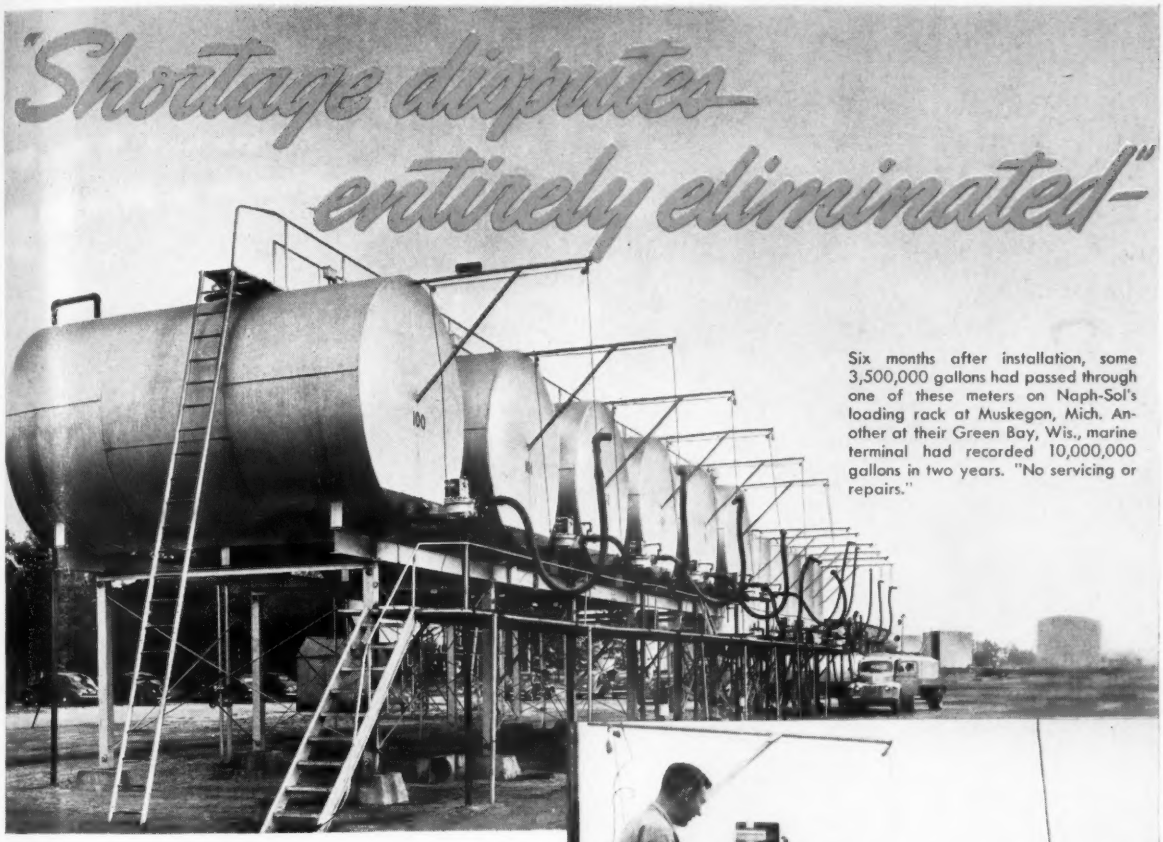
Plus **reliability—extras in quality and service—have made Dielectric Products Co. the acknowledged leader in the ignition electrode field. Why not investigate?**

DIELECTRIC PRODUCTS CO. • 245 CUSTER AVENUE, JERSEY CITY, NEW JERSEY

"Shortage disputes entirely eliminated"



Six months after installation, some 3,500,000 gallons had passed through one of these meters on Naph-Sol's loading rack at Muskegon, Mich. Another at their Green Bay, Wis., marine terminal had recorded 10,000,000 gallons in two years. "No servicing or repairs."

• "Shortage disputes entirely eliminated" . . . In these wartime days, when every gallon is pinched and profit margins are close, this is a significant statement. Especially since the gallonage through Naph-Sol Refining Company's Red Seal printing meters runs at the rate of 2,500,000 gallons a month!

According to Naph-Sol's report, the same is true of deliveries by Red Seal meters on their tank trucks.

Yet, at the same time, "*metering has reduced losses* . . . truck tank compartments formerly had not been gauged properly."

NEPTUNE RED SEAL METERS

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NEPTUNE

GASOLINE DISPENSING PUMPS • METERS FOR: BARGE AND TANK CAR UNLOADINGS • STORAGE TRANSFERS • LOADING RACKS • DELIVERY TANK TRUCKS

2011

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CONTROL *Systems*